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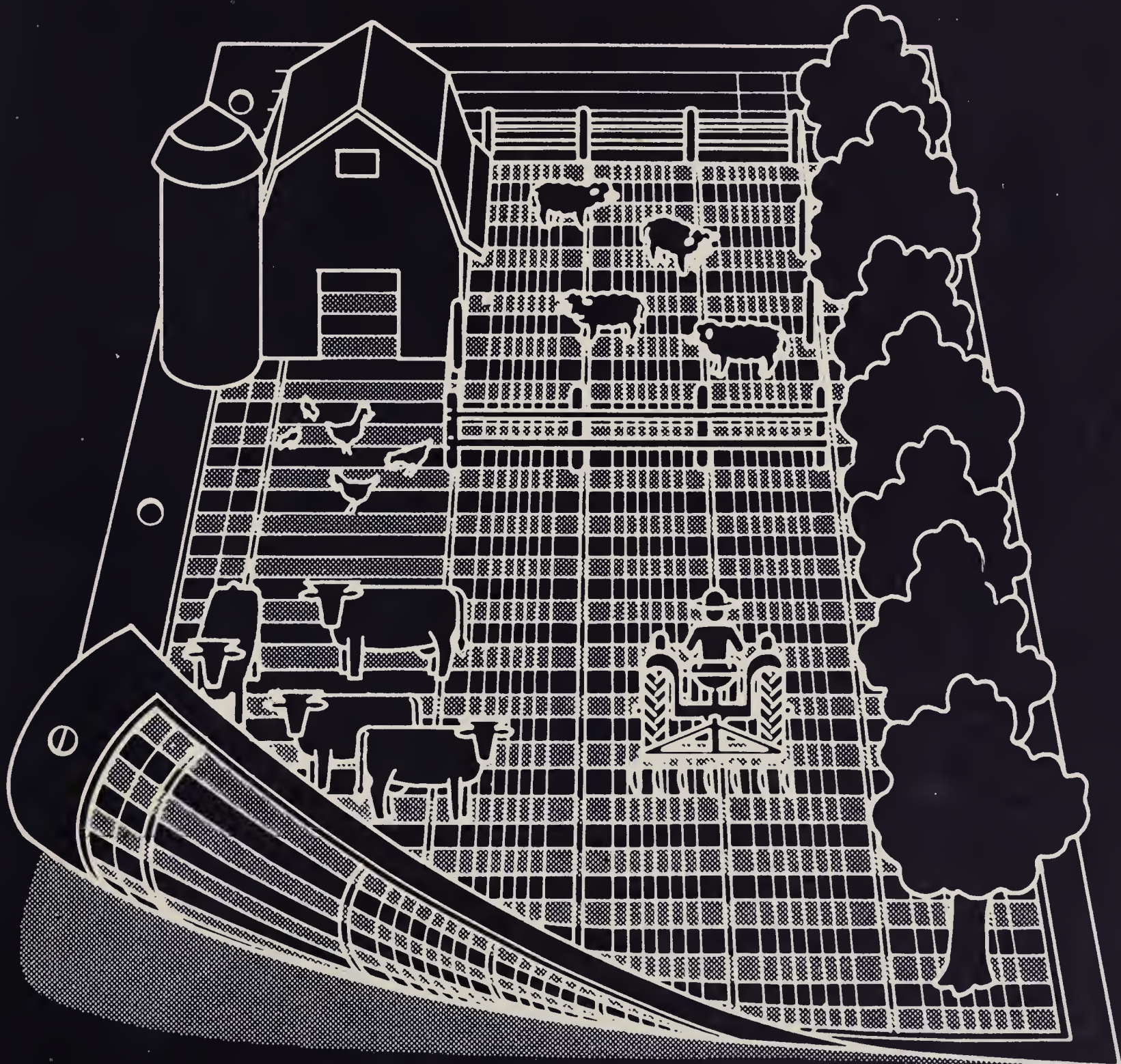
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Economic Indicators of the Farm Sector

Production and Efficiency Statistics, 1989



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For further information on this database, write to James Hauver, room 532, 1301 New York Avenue, NW, Washington, DC 20005-4788 or phone 202-219-0432.

Abstract

Recovering from the 1988 drought, farm output rose 11.8 percent in 1989 and input use increased 2.1 percent, raising agricultural productivity by 9.4 percent and producing a record high index of 128.4. Crop production increased 16.6 percent, and livestock production rose 0.3 percent. Historic high indexes were achieved for labor productivity (148) and livestock production per breeding unit (131). Harvested crop acreage increased 6.7 percent, mainly due to reductions in the acres idled under Federal programs. Farm machinery expenditures rose 23 percent, continuing an upward trend that began in 1987.

Keywords: Farm output, farm inputs, labor, productivity.

Note

The Economic Research Service introduces a new productivity time series in this report. Tornqvist indexes of output, input, and productivity are presented on a national level in addition to the Laspeyres national and regional indexes previously published. National and regional Laspeyres indexes will continue to be published until regional Tornqvist indexes have been developed. A special article at the end of this report explains the new series.

Preface

This report is one of five in the *Economic Indicators of the Farm Sector* series. Other reports are *Costs of Production--Livestock and Dairy*, *Costs of Production--Major Field Crops*, *National Financial Summary*, and *State Financial Summary*.

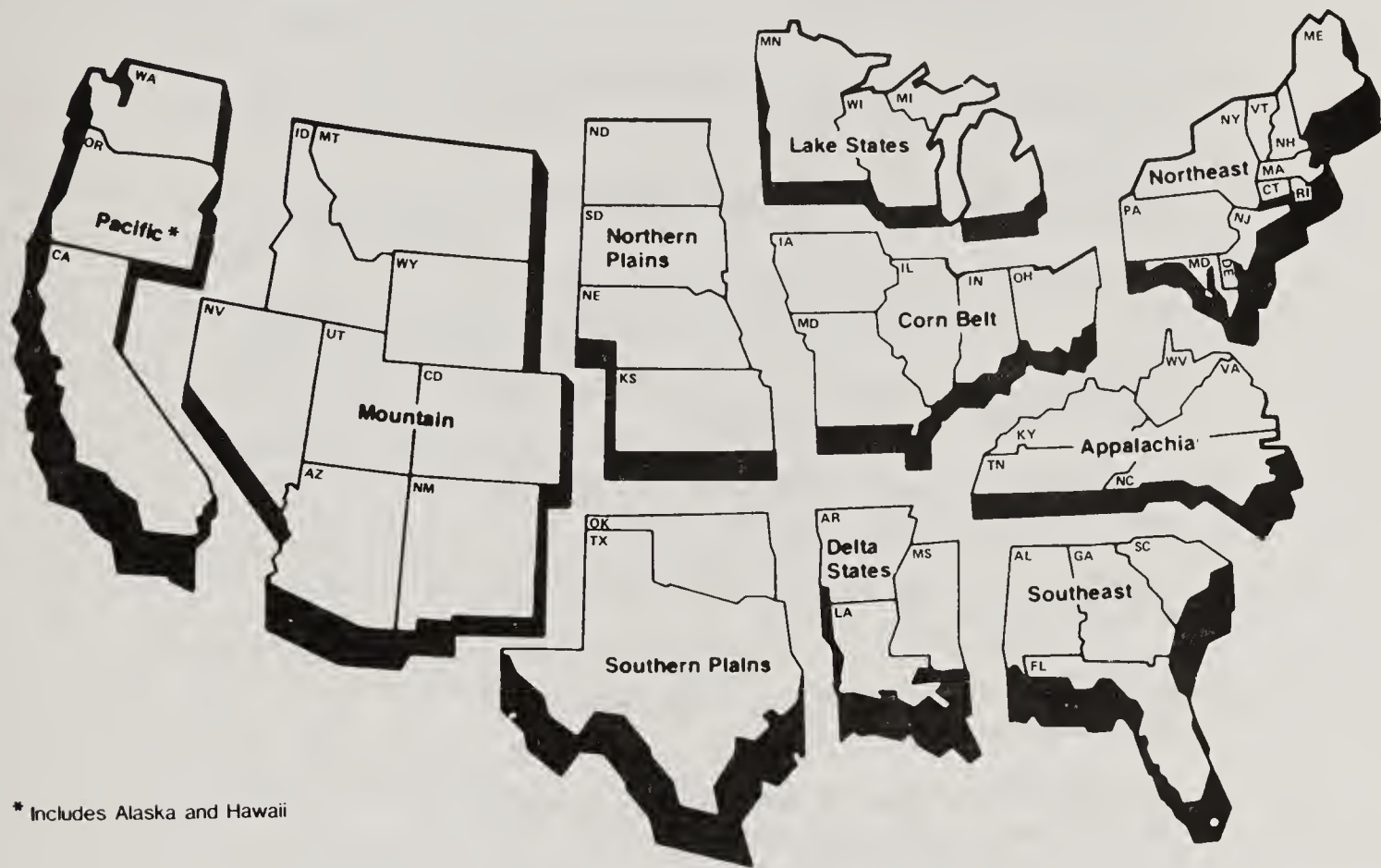
Included are major time series which reflect changes in farm production, production inputs, and production efficiency. We present national and, in most cases, regional time series data. The text highlights changes since the previous year or specified time period. We usually revise data only for the year preceding the year in the title, but some tables reflect changes over several years.

This annual publication was prepared under the general direction of James H. Hauver.

Principal contributors and information sources are:

Farm output--James H. Hauver, Thelma Anderson, and George Douvelis	(202) 219-0432
Hours of farmwork--James H. Hauver	219-0432
Farm inputs--Rachel B. Evans and James H. Hauver	219-0432
Cropland used for crops--Art Daugherty	219-0422
Farm machinery--Marlow Vesterby	219-0422
Fertilizer--Harold Taylor	219-0464
Managing editor--Jim Carlin	219-0512
Secretarial support--Douglas Rager	219-0450
Computer program support--Glenn Immer	219-0492

Farm Production Regions



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Economic Indicators of the Farm Sector

Production and Efficiency Statistics, 1989

BACKGROUND

Recovering from the 1988 drought, farm production rose sharply in 1989, while input use increased only modestly, causing overall agricultural productivity to increase 9.4 percent and to reach a historic high index of 128.4. Historic highs were also achieved for labor productivity (148) and livestock production per breeding unit (131). Crop production per acre rebounded from 1988's drought levels, rising 11.2 percent, but remained below 1987's record level of 123. Farm output increased 11.8 percent, due primarily to an increase in crop production. Livestock production remained essentially unchanged, increasing 0.3 percent. Farm output is the combination of total livestock and total crop production indexes after they have been adjusted to exclude goods produced on farms and used in further agricultural production. Because of these adjustments, the farm output index may be outside the range of the index number of either of its components. Since farm production increased 11.8 percent while input use increased 2.1 percent, overall agricultural productivity jumped 9.4 percent, attaining a record high (128.4), 0.1 percent higher than the previous record (1985).

Crop production increased 16.6 percent. Cotton output fell 19.8 percent, and the output of fruits and nuts fell 5.8 percent. Feed grain production increased 48 percent. Increased output was reported for oil crops (19.9 percent), vegetables (14.7 percent), hay and forage (13.8 percent), and food grains (8.6 percent). Tobacco was essentially unchanged, dropping 0.3 percent. Miscellaneous crop output increased 12.9 percent.

Livestock production was led by a 3.5-percent increase in poultry production. Dairy and meat animal production fell 0.9 percent and 0.4 percent.

The release of data from the 1987 Census of Agriculture has prompted substantial revisions of input use indexes for all years since 1981. These changes have caused major revisions of multifactor productivity indexes and related index numbers for all years since 1981.

HIGHLIGHTS

Farm Output

Farm output rose 11.8 percent, as a 16.6-percent increase in crop production offset stagnated livestock production (table 1).

Farm output climbed in all but two southern regions. Production increased in the Corn Belt (29.8 percent), Lake States (28.2 percent), Northeast (9.2 percent), Appalachia (9 percent), Mountain States (8.9 percent), Northern Plains (8.4 percent), Pacific (2.6 percent), and Southeast (0.8 percent). The Delta States and Southern Plains reported output declines of 5.8 percent and 5.2 percent (tables 2-11).

Seven of the 10 farm regions increased crop output: Lake States (51.8 percent), Corn Belt (44.8 percent), Northeast (16.5 percent), Mountain States (12.5 percent), Appalachia (11.5 percent), Northern Plains (10.7 percent), and Pacific (2.4 percent). Three southern regions saw declining crop output: Delta States (10.6 percent), Southern Plains (9.9 percent), and Southeast (0.5 percent).

Production of feed grains, which include corn, sorghum, oats, and barley, increased to 221 million metric tons, up 48 percent from 1988. Corn production increased 53 percent to 7.5 billion bushels, and corn yield rose to 116.2 bushels per acre, still below the record 119.8 bushels set in 1987. Sorghum grain production totaled 618 million bushels, up 7 percent, although yield declined to 55.4 bushels per acre, the lowest since 1983. Oats production reached 374 million bushels, a 72-percent upturn from the drought-reduced 1988 crop. Yield averaged 54.4 bushels per acre, a 15.1-bushel increase. Barley output climbed 39 percent to 403 million bushels, and average yield increased to 48.6 bushels per acre.

Oilseed production, which includes soybeans, cottonseed, peanuts, flaxseed, and sunflowerseed, increased by 19.9 percent, reaching 59.2 million metric tons. Soybeans totaled 1.93 billion bushels, 24 percent

above the drought-stricken crop of 1988. The average yield was the fourth highest on record at 32.4 bushels per acre. The production of hay and forage increased 13.8 percent. The quantity of all hay produced increased by 15 percent and reached 145 million tons. The increase in production came from higher yields, which were partially offset by lower acreage. Food grain production, including wheat, rye, and rice, increased to 62.7 million metric tons, up 5.8 million tons. The production of sugar crops remained essentially unchanged, and the output of vegetables and miscellaneous crops increased 14.7 percent and 12.9 percent, respectively.

Only cotton experienced a substantial decline (19.9 percent) in 1989. Cotton production dropped to 12.1 million bales, because of fewer acres harvested and lower yields. The production of fruits and nuts, which includes citrus and noncitrus fruits, fell 5.7 percent. Tobacco output dropped slightly (0.3 percent) mostly due to lower yields.

The production of livestock in 1989 remained essentially unchanged. Six production regions reported slight increases: Delta States (3.4 percent), Appalachia (2.7 percent), Northern Plains (2.2 percent), Southern Plains (1.4 percent), Southeast (1.2 percent), and Pacific (0.8 percent). Declines occurred in the Lake States (2.0 percent), Corn Belt (1.0 percent), Northeast (0.9 percent), and Mountain States (0.8 percent). The production of meat animals fell 0.4 percent to 62.7 billion pounds. Output of dairy products declined by 0.8 percent. However, poultry production rose 3.5 percent. Production of turkeys and broilers increased 7.7 percent and 5.0 percent, while chicken production fell 11 percent. Miscellaneous livestock output fell 9.8 percent.

Harvested Crop Acreage

Harvested crop acreage increased 7.1 percent to 318 million acres, a 21-million-acre jump (table 12), mainly because 17 million previously idle acres were freed up from Federal programs. Farmers idled fewer than 61 million acres under Federal programs in 1989, compared with nearly 78 million in 1988. Also influencing the increase in harvested acreage were increased double-cropping and less drought-induced crop failure and cultivated summer fallow.

Farmers harvested more acres of most major crops. Feed grains harvested were up 10.6 million acres, and food grains were up 8.8 million. Harvested acreage of soybeans increased by 2.1 million. However, cotton harvested fell 2.4 million acres.

Exported crops represented an acreage equivalent of 102 million acres, down nearly 14 percent from 1988's 118 million acres (table 12). This decline, however, was largely the result of higher crop yields in 1989, not a decline in export volume. With increased crop yields, fewer acres were required to produce an equal quantity of exports. Food grains accounted for 44 percent of the export acreage equivalent, while oil crops accounted for 18 percent, feed grains 22 percent, cotton 5 percent, and other crops 11 percent.

Cropland Used for Crops

Cropland used for crops totaled 341 million acres, up 4.3 percent from 1988 (table 13). Cropland harvested reached 306 million acres, while crop failure affected about 8 million acres. Summer fallow amounted to 27 million acres.

Acreages of cropland used for crops were higher in eight regions and lower in two regions (tables 14-23). The largest acreage increases occurred in the Corn Belt (5.5 million acres), followed by the Northern Plains (2.5 million). Increases also occurred in the Mountain (1.8 million), Pacific (1.1 million), and Appalachian regions (1.1 million). The other regions with increased acreage of cropland used for crops changed by 1 million acres or less. The Delta States and Northeast regions had declines of 0.8 million and 0.1 million acres in cropland used for crops. Indexes of cropland used for crops increased in all regions except the Delta States and Northeast (table 24). The U.S. index increased from 86 to 90 (1977=100).

Crop Production per Acre

Crop production per acre is the index of crop production expressed as a percentage of the index of cropland used for crops and indicates relative annual yields of all crops combined (table 25). These yields rose 12 percent per acre but remained below 1987's historic high (123). The index of crop production per acre increased in six regions: Lake States (46.1 percent), Corn Belt (35.4 percent), Northeast (13.2 percent), Northern Plains (8 percent), Mountain States (7.9 percent), and Appalachia (4.3 percent). Declines were reported in the Southern Plains (15.5 percent), Delta States (5.8 percent), and Southeast (3.9 percent). The index of crop production per acre in the Pacific region remained unchanged. The yield of sorghum for grain was 55.4 bushels per acre, down 8.4 bushels from 1988 and the lowest yield since 1983. Yields for oats and barley rose 38.4 percent and 27.9 percent, respectively, while the soybean yield increased by 20 percent, becoming the fourth highest of record. Corn

yield increased by 37.4 percent but remained below the historic high of 1987.

Animal Units of Breeding Livestock

Animal units of breeding livestock remained unchanged in 1989, but livestock production per breeding unit reached a record high (131), 1.2 percent above 1988 levels (table 26). The number of breeding beef cows and breeding milk cows fell 1.3 percent and 0.9 percent. Inventories of breeding ewes increased 8.1 percent, while slight increases were reported in breeding hens (2.7 percent) and breeding sows (0.8 percent). Inventories of goats clipped did not change. Inventories of breeding turkey hens, no longer reported, are estimated to have increased moderately based on past trends.

Fertilizer Use

Fertilizer use remained the same at 19.6 million nutrient tons (table 27). Of the primary nutrients, nitrogen use increased 1 percent to 10.6 million tons (table 28). Phosphate use remained the same at 4.1 million tons, while potash use declined 2.8 percent to 4.8 million tons (tables 29 and 30). Fertilizer use remained about the same even though acres in production of major field crops increased. Nutrients were carried over from the drought-stunted 1988 crop year. Fertilizer use per acre varied by crop but remained close to or less than 1988 levels for some of the major crops.

Fertilizer increases were reported in the Mountain, Southeast, Delta States, Southern Plains, Northeast, and Appalachian regions while declines occurred in the Lake States, Pacific, Corn Belt, and Northern Plains. Nitrogen use ranged from an increase of 13 percent in the Northeast region to a drop of 3 percent in the Northern Plains. Corn Belt farmers increased nitrogen use by 2 percent. The change in phosphate use ranged from an increase of 11 percent in the Mountain States to a decrease of 4 percent in the Corn Belt and Pacific regions. Northern Plains farmers increased phosphate use 7 percent. Potash use ranged from an increase of 15 percent in the Mountain States to a decrease of 10 percent in the Pacific region. Corn Belt farmers cut back on potash use by 7 percent, while farmers in the Northern Plains region applied 7 percent more than a year ago.

Fertilizer application rates on corn, cotton, wheat, and soybeans varied by crop. Nitrogen, phosphate, and potash application rates of 131, 59, and 81 pounds per acre on corn represented percentage decreases of 4.8,

5.3, and 4.7. Average nitrogen application rates of 83, 18, and 62 pounds per acre for cotton, soybeans, and wheat represented an increase of 6.4 percent for cotton and declines of 18.2 percent for soybeans and 3.1 percent for wheat. The phosphate application rates of 42 pounds and 37 pounds per acre on cotton and wheat were the same as the previous year, while an application rate of 46 pounds per acre for soybeans meant a decrease of 4.2 percent. The potash application rate for cotton of 40 pounds per acre was a 2.6-percent increase, while application rates of 74 pounds and 46 pounds per acre for soybeans and wheat represented declines of 6.3 percent and 11.5 percent.

Farm Machinery Expenditures

Farm machinery expenditures rose \$1.46 billion to \$7.9 billion, up 23 percent, continuing the upward trend begun in 1987. Spending on tractors rose \$390 million to \$2.8 billion, a 16-percent increase, and purchases of other farm machinery rose 27 percent to \$5.1 billion.

Machinery and equipment nominal loan rates increased modestly. Net cash income, however, fell 6 percent to \$55 billion. The debt/asset ratio fell 6 percent to 15. The net positive effect of these factors helped boost 1989 demand for farm machinery. If net cash income improves and the debt/asset ratio continues to decline, farmers will replace aging machinery more quickly, at a rate more consistent with historic patterns.

Estimated inventories of farm machinery and equipment have been revised with the release of data from the 1987 Census of Agriculture (table 31). The farm inventory of wheeled tractors on December 31, 1987, was 1.9 percent above 1982 census levels. Other types of machinery also showed modest gains: grain combines (3.6 percent), pickup balers (2.9 percent), and motor trucks (0.1 percent). Reporting of cornhead and field forage harvester inventories was discontinued in the 1987 census.

Total Hours of Labor Used for Farmwork

Total hours of labor used for farmwork in 1989 were 5.3 billion, up 1.2 percent (tables 32 and 33), a statistically insignificant increase. Farm operators contributed 51.1 percent of total labor use, hired labor 31.4 percent, and unpaid family labor 17.5 percent. While hired labor remained unchanged, operator labor slipped by an insignificant 4.7 percent. Unpaid family labor, however, rose sharply, by 26.6 percent, which was statistically significant. Overall labor use increased slightly.

Change in labor hours, by sales class, farm type, and region

Farm characteristics	1988	1989	T-statistic
----- <u>Million labor hours</u> -----			
Sales class:			
\$500,000 and over	886	901	0.16
\$250,000-\$499,999	615	631	.40
\$100,000-\$249,999	1,068	1,086	.41
\$40,000-\$99,999	919	932	.24
\$20,000-\$39,999	481	444	-1.10
\$10,000-\$19,999	376	406	.82
Less than \$10,000	874	881	.14
Farm type:			
Cash grain	917	1,003	2.23
Tobacco	168	171	.14
Cotton	121	117	-.21
Vegetable/fruit/nut	429	485	1.03
Nursery/greenhouse	377	264	-1.87
Other crop	257	335	1.50
Beef/hog/sheep	1,797	1,561	-3.15
Dairy	940	960	.46
Poultry	85	136	1.89
Other livestock	128	249	3.49
Region:			
Northeast	508	514	.13
Lake States	705	724	.43
Corn Belt	886	891	.13
Northern Plains	497	514	.57
Appalachia	556	527	-.77
Southeast	362	378	.39
Delta States	235	229	-.28
Southern Plains	550	445	-1.74
Mountain	351	372	.79
Pacific	569	685	1.45
Labor type:			
Operator	2,834	2,700	-1.87
Unpaid family	728	922	5.39
Hired labor	1,657	1,658	.01
Total	5,218	5,280	.43

Labor use fell in one of the seven sales classes of farms. Farms with sales of \$20,000 to \$39,999 experienced a 7.7-percent decline in hours of farmwork. This decline, though, was not statistically significant. Other sales classes reported small increases in labor use, none statistically significant. Farms with sales of \$500,000 and over, \$250,000 to \$499,999, \$100,000 to \$249,999, \$40,000 to \$99,999, \$10,000 to \$19,999 and less than \$10,000 reported percentage increases in hours of farmwork of 1.7, 2.6, 1.7, 1.4, 8.0, and 0.8.

Among farm enterprise types, statistically significant increases in farm labor occurred in other livestock operations (94.5 percent) and in cash grain operations (9.4 percent). Labor use also rose on poultry (60.0 percent), other crops (30.4 percent), vegetables/fruit/nuts (13.1 percent), dairy (2.1 percent), and tobacco (1.8 percent) farms. These increases, though, were not statistically significant. The only farm type that reported a statistically significant drop in farm labor was beef/hog/sheep operations where labor fell 13.1 percent. Other farm types reported statistically insignificant declines in farm labor: nursery/greenhouse (30.0 percent) and cotton (3.3 percent).

Farm labor declined in three farm production regions and rose in seven, though not significantly. Farm labor fell in the Southern Plains (19.1 percent), Appalachia (5.2 percent), and Delta States (2.6 percent). Farm labor increased in the Pacific region (20.6 percent), Mountain region (6.0 percent), Southeast (4.4 percent), Northern Plains (3.6 percent), Lake States (2.7 percent), Northeast (1.2 percent), and Corn Belt (0.7 percent).

Total Farm Labor Productivity

Total farm labor productivity reached a historic high in 1989 (148), 10.4 percent above the 1988 level, but with substantial variations across regions (table 34). Production per hour rose in six regions, declined in two, and remained unchanged in two. Substantial increases in labor productivity took place in the Corn Belt (29.4 percent), Lake States (23.5 percent), Southern Plains (21.3 percent), Appalachia (12.0 percent), and Northeast (6.5 percent), and a slight increase occurred in the Northern Plains (4.8 percent). Labor productivity in the Delta States and Mountain States remained essentially unchanged. The Pacific region reported a sharp drop in labor productivity (14.2 percent), while the Southeast experienced a milder drop of 4.5 percent.

Persons Supplied Farm Products by One U.S. Farmworker

One U.S. farmworker produced farm products for 98 persons in 1989, compared with 97.6 persons in 1988, a 0.4-percent increase (table 35). One farmworker produced enough for 58 persons in 1975 and 37 in 1965. However, to suggest that the labor of one farmworker (farmworkers include farm operators, hired workers, and unpaid family workers) produced the food, fiber, and tobacco consumed by 98 people would be misleading. Farmers and farmworkers have become more specialized over the years. Many jobs and functions have moved from farms to nonfarm activities. For instance, feed preparation and custom services have been transferred to nonfarm enterprises. Because of these changes, many nonfarm workers perform functions formerly done by farmworkers. This series does not quantify off-farm contributions. Onsite employment in farm production has declined. For every worker on farms, five to six nonfarm workers provide resources and services in producing, processing, transporting, wholesaling, and retailing farm products.

Farm Inputs

Total quantity of farm inputs used increased 2.1 percent (table 36). The use of farm labor climbed 1.3 percent. Farm real estate input remained almost unchanged from the 1988 level (down just 0.5 percent), while use of mechanical power/machinery increased 1.3 percent. These three groups constituted 68.7 percent of total inputs used in agriculture in 1989. Taxes and interest fell 3 percent. However, agricultural chemicals; feed, seed, and livestock purchases; and the miscellaneous input groups rose 10.5, 8.19, and 3.3 percent, respectively. These four groups accounted for the remainder of all inputs used in farm production.

Purchased inputs, which made up 55 percent of all inputs, increased 4.9 percent from 1988 while nonpurchased inputs remained essentially unchanged in 1989, down 0.9 percent. With a 10.5-percent increase, agricultural chemical use reached the fourth highest level on record (122).

Total farm input use increased in nine regions (tables 37-46): Pacific region (8.3 percent), Southeast (4.0 percent), Mountain region (3.2 percent), Delta States (2.7 percent), Northeast (2.2 percent), Lake States (1.7 percent), Northern Plains (1.8 percent), and Appalachia (0.6 percent). Input use declined only in the Southern Plains, by 1.5 percent.

Farm Output per Unit of Input

Farm output per unit of input rose 9.4 percent, attaining a record level (128.4) (tables 47 and 48). Productivity of farm inputs rose in six regions and fell in four. Multifactor productivity increased in the Corn Belt (28.5 percent), Lake States (26 percent), Appalachia (8.4 percent), Northeast (6.9 percent), Northern Plains (6.4 percent), and Mountain region (5.6 percent). Productivity declined in four regions: Delta States (8.2 percent), Pacific region (5.3 percent), Southern Plains (3.7 percent), and Southeast (3.1 percent). Productivity reached historically high levels in the Lake States, Appalachia, and the Mountain region.

Preliminary 1990 Outlook

According to preliminary 1990 output indexes, total farm output rose 2.6 percent. Crop production increased by 4.7 percent, while livestock output again remained almost unchanged, increasing only 0.9 percent.

Significant increases are estimated for the following: food grains (29 percent), cotton (18.6 percent), tobacco (14.0 percent), poultry (7.8 percent), and feed grains (6.5 percent), while minor increases are expected in dairy (2.6 percent) and hay and forage (1.0 percent). Declines in farm production in 1990, which are not expected to be significant, may have occurred in oil crops (3.8 percent), meat animals (2.9 percent), and sugar crops (2.8 percent).

Table 1--Farm production: Indexes of farm output by enterprise group, United States, 1947-89
(1977=100)

Year	Farm out- put 1/	Livestock and livestock products 2/					Crops									
		All 3/	Meat ani- mals 4/	Dairy prod- ucts 5/	Poul- try and eggs 6/	All 7/	Feed grains 8/	Hay and for- age 9/	Food grains 10/	Vege- tables 11/	Fruits and nuts 12/	Sugar crops 13/	Cotton	Tobac- co	Oil crops 14/	
1947	58	65	63	88	44	56	39	68	64	78	72	53	85	111	22	
1948	63	64	62	85	43	64	57	68	62	83	67	44	107	104	27	
1949	62	67	65	87	48	61	50	68	53	80	70	44	115	104	26	
1950	61	70	70	88	50	59	51	72	49	82	71	55	72	107	26	
1951	63	73	74	86	53	60	47	74	49	77	72	43	109	123	26	
1952	66	74	75	87	53	62	50	73	63	77	70	45	109	119	26	
1953	66	74	74	91	54	62	49	75	57	81	71	50	118	109	26	
1954	66	77	77	92	57	61	51	75	51	79	71	55	98	118	28	
1955	69	79	81	93	56	63	54	79	48	83	68	50	105	115	30	
1956	69	79	78	95	61	63	54	76	50	88	71	50	96	114	34	
1957	67	78	75	95	62	62	58	82	47	85	65	57	78	87	33	
1958	73	79	77	94	66	69	64	83	69	87	70	56	82	91	39	
1959	74	83	83	94	68	68	66	78	55	86	72	62	104	94	36	
1960	76	82	80	95	68	72	69	83	66	88	69	60	102	102	38	
1961	76	86	84	98	73	70	62	83	60	93	72	67	102	108	43	
1962	77	86	85	98	73	71	62	86	56	91	72	69	106	122	44	
1963	80	89	90	98	75	74	68	86	59	91	71	89	110	123	46	
1964	79	91	92	99	78	72	59	87	65	87	71	91	109	117	46	
1965	82	89	87	99	81	76	70	91	67	94	74	80	107	97	53	
1966	79	91	91	96	85	73	70	89	67	96	72	80	68	99	55	
1967	83	94	95	95	89	77	79	92	76	98	73	80	52	103	56	
1968	85	94	96	94	87	79	75	92	80	102	72	93	77	90	64	
1969	85	95	96	94	89	80	78	93	74	99	85	96	71	94	65	
1970	84	99	102	95	93	77	71	92	69	96	81	95	72	100	66	
1971	92	100	103	96	94	86	92	97	81	96	87	97	76	89	68	
1972	91	101	104	97	97	87	88	96	77	97	78	110	97	91	74	
1973	93	99	102	94	94	92	91	101	86	99	93	95	91	91	87	
1974	88	100	104	94	94	84	74	96	91	101	94	89	82	104	71	
1975	95	95	97	94	92	93	91	100	108	97	98	114	58	114	86	
1976	97	99	100	98	98	92	96	94	107	99	96	112	74	112	74	
1977	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	
1978	104	101	100	99	106	102	108	106	93	103	99	101	76	106	105	
1979	111	104	103	101	114	113	116	108	108	107	105	94	102	80	129	
1980	104	108	107	105	115	101	97	98	121	104	119	97	79	93	99	
1981	118	109	106	108	119	117	121	106	144	111	111	107	109	108	114	
1982	116	107	101	110	119	117	122	109	138	116	113	96	85	104	121	
1983	96	109	104	114	120	88	67	100	117	107	110	93	55	75	91	
1984	112	107	101	110	123	111	116	107	129	117	114	95	91	90	106	
1985	118	110	102	117	128	118	134	106	121	122	119	97	94	81	117	
1986	111	110	100	116	133	109	123	106	107	117	111	106	69	63	110	
1987	110	113	102	116	144	108	106	102	107	126	137	111	103	62	108	
1988	102	116	105	118	148	92	73	89	98	115	137	105	107	72	89	
1989 15/	114	116	104	117	153	107	108	101	107	132	129	105	86	71	106	

1/ The index number of farm output in some instances may be outside the range of the index number of all crops and the index number of all livestock production. 2/ Horses and mules excluded. 3/ Includes clipped wool, mohair, and, for 1950 to date, honey and beeswax. These items are not included in the separate groups of livestock and products shown. 4/ Cattle and calves, sheep and lambs, and hogs. 5/ Butter, butterfat, wholesale milk, retail milk, and milk consumed on farms. 6/ Chickens and eggs, commercial broilers, and turkeys. 7/ Includes hayseeds, pasture seeds, and cover-crop seeds, and some miscellaneous crop production not included in separate groups of crops shown. Farm gardens were excluded after 1964. 8/ Corn for grain, oats, barley, and sorghum grain. 9/ All hay, sorghum forage, corn silage, and, for 1950 to date, sorghum silage. 10/ All wheat, rye, and rice. Buckwheat was excluded after 1964. 11/ Potatoes, sweetpotatoes, dry edible beans, dry field peas, truck crops for processing, and truck crops for fresh market. 12/ Fruits, berries, and tree nuts. Citrus production is on year of harvest, 1960 to date. Earlier years on year of bloom. 13/ Sugar beets, sugarcane for sugar and seed, sugarcane syrup, and maple syrup. 14/ Soybeans, peanuts for nuts, cottonseed, flaxseed, and, for 1950 to 1964, tungnuts and peanuts hogged. 15/ Preliminary.

Table 2--Farm production: Indexes of farm output by enterprise group, Northeast region, 1947-89
(1977=100)

Year	Farm out- put	Livestock and livestock products 1/					Crops								
		All 2/	Meat ani- mals 3/	Dairy prod- ucts 4/	Poul- try and eggs 5/	All 6/	Feed grains 7/	Hay and for- age 8/	Food grains 9/	Vege- tables 10/	Fruits and nuts 11/	Sugar crops 12/	Cotton	Tobac- co	Oil crops 13/
1947	86	79	104	81	66	100	42	94	208	165	92	241	0	203	9
1948	89	78	105	79	65	105	53	94	194	182	83	178	0	205	10
1949	91	84	107	84	74	101	49	85	203	168	107	178	0	212	12
1950	95	87	114	85	79	105	54	90	190	172	112	235	0	213	14
1951	95	89	120	85	83	103	58	94	186	151	107	202	0	205	14
1952	95	91	128	86	83	99	57	92	198	151	84	182	0	173	16
1953	98	94	129	90	86	102	55	90	210	162	96	130	0	180	20
1954	98	94	123	91	87	101	58	92	185	148	107	193	0	198	23
1955	97	96	126	94	85	97	54	90	168	146	104	186	0	168	29
1956	100	97	114	95	91	102	62	89	160	166	88	171	0	168	42
1957	95	96	112	94	90	93	48	87	140	151	92	199	0	155	30
1958	103	96	109	95	92	105	65	96	162	160	111	150	0	152	42
1959	99	96	110	95	90	100	61	92	136	146	109	122	0	160	41
1960	102	96	109	98	87	104	65	97	146	158	98	131	0	165	48
1961	103	97	108	101	86	106	63	99	146	159	110	172	0	168	51
1962	98	98	107	102	86	96	54	81	120	160	106	159	0	183	44
1963	99	99	105	102	89	97	54	93	138	149	97	128	0	162	36
1964	100	99	103	103	89	97	58	87	141	146	112	174	0	167	27
1965	103	100	97	104	91	101	64	88	134	156	112	141	0	170	45
1966	95	98	95	100	93	93	46	95	137	145	94	151	0	139	25
1967	103	97	93	99	93	107	82	101	170	154	97	124	0	129	48
1968	98	95	96	97	90	98	65	94	123	150	95	134	0	128	44
1969	100	97	98	98	94	100	77	97	113	136	104	159	0	116	59
1970	102	97	96	98	96	103	82	102	100	133	112	106	0	112	48
1971	104	98	98	99	95	103	80	104	103	128	126	78	0	98	60
1972	93	96	97	97	94	86	66	91	100	105	87	94	0	77	61
1973	95	94	94	92	95	97	81	103	94	109	93	74	0	97	86
1974	99	96	103	94	95	104	91	103	144	116	109	90	0	103	88
1975	100	96	105	96	92	101	96	105	129	98	114	102	0	78	87
1976	103	99	103	99	98	101	105	104	108	97	97	90	0	97	80
1977	100	100	100	100	100	100	100	100	100	100	100	100	0	100	100
1978	110	103	103	101	107	108	109	110	71	100	119	98	0	97	127
1979	109	107	109	103	115	110	116	108	95	104	123	104	0	72	134
1980	108	110	115	106	114	106	103	108	106	99	133	76	0	89	93
1981	119	113	122	109	116	115	133	111	127	107	106	120	0	105	115
1982	118	113	114	111	116	117	127	113	115	112	128	100	0	106	120
1983	110	116	119	115	118	101	81	105	118	97	130	100	0	87	106
1984	118	114	120	112	115	117	130	114	126	105	129	100	0	87	126
1985	119	118	117	116	121	121	140	115	141	112	125	100	0	84	135
1986	111	117	113	117	122	109	112	109	132	97	129	100	0	77	115
1987	106	117	114	114	125	103	97	107	110	102	113	100	0	55	102
1988	100	116	113	113	125	86	67	96	135	62	117	100	0	53	137
1989 14/	109	115	119	110	125	101	94	98	131	98	106	100	0	46	167

1/ Horses and mules excluded. 2/ Includes clipped wool, honey, and beeswax. These items are not included in the separate groups of livestock and livestock products shown. 3/ Cattle and calves, sheep and lambs, and hogs. 4/ Butter, butterfat, wholesale milk, retail milk, and milk consumed on farms. 5/ Chicken eggs, commercial broilers, chickens, and turkeys. 6/ Includes hayseeds, pasture seeds, and cover-crop seeds, and some miscellaneous crop production not included in separate groups of crops shown. Farm gardens excluded after 1964. 7/ Corn for grain, oats, and barley. 8/ All hay and corn silage. 9/ All wheat and rye. Buckwheat was excluded after 1964. 10/ Potatoes, sweetpotatoes, dry edible beans, truck crops for processing, and truck crops for fresh market. 11/ Fruits, berries, and tree nuts. 12/ Maple syrup. 13/ Soybeans. 14/ Preliminary.

Table 3--Farm production: Indexes of farm output by enterprise group, Lake States region, 1947-89
(1977=100)

Year	Farm out- put	Livestock and livestock products 1/					Crops									
		All 2/	Meat ani- mals 3/	Dairy prod- ucts 4/	Poul- try and eggs 5/	All 6/	Feed grains 7/	Hay and for- age 8/	Food grains 9/	Vege- tables 10/	Fruits and nuts 11/	Sugar crops 12/	Cotton	Tobac- co	Oil crops 13/	
1947	55	82	85	76	95	44	35	66	34	62	94	16	0	153	24	
1948	59	78	82	72	89	51	46	64	36	70	95	15	0	124	29	
1949	60	82	89	75	97	50	44	66	35	75	108	21	0	129	24	
1950	60	85	97	73	99	48	39	71	30	67	120	27	0	131	24	
1951	63	87	102	73	101	51	43	80	33	65	97	20	0	95	23	
1952	65	88	103	75	101	53	48	77	34	67	98	18	0	90	24	
1953	65	89	100	79	102	53	46	76	38	69	113	21	0	82	26	
1954	67	93	105	80	110	54	48	77	26	69	87	27	0	94	33	
1955	68	95	109	81	109	55	50	77	26	67	87	27	0	86	33	
1956	71	93	99	84	111	59	53	80	31	79	100	24	0	83	40	
1957	70	93	98	87	108	57	52	80	28	70	107	29	0	81	37	
1958	72	97	103	89	110	59	53	75	42	78	107	33	0	90	40	
1959	74	99	109	89	112	61	56	80	36	82	120	35	0	86	32	
1960	74	97	104	90	107	61	54	84	37	83	108	31	0	86	32	
1961	77	100	108	92	114	64	56	83	40	93	123	39	0	92	40	
1962	75	101	109	95	104	60	49	92	30	92	118	33	0	80	33	
1963	78	102	113	95	99	64	57	87	39	94	88	42	0	74	43	
1964	76	105	114	99	98	60	47	85	38	89	147	42	0	81	41	
1965	75	100	104	98	96	61	50	88	31	95	127	38	0	79	45	
1966	76	97	103	93	96	66	57	90	30	99	98	43	0	67	56	
1967	78	97	103	93	98	67	59	89	46	96	89	41	0	66	50	
1968	80	97	105	93	90	71	65	91	40	100	99	60	0	58	52	
1969	78	94	101	91	87	69	61	91	30	101	122	59	0	54	55	
1970	79	97	107	92	92	69	63	88	27	95	114	57	0	76	57	
1971	86	100	110	94	98	77	77	93	49	96	125	49	0	92	46	
1972	83	98	103	95	103	75	72	89	44	96	121	49	0	77	62	
1973	85	97	103	91	105	81	75	92	60	97	83	57	0	78	85	
1974	80	96	103	92	100	73	59	91	70	104	121	54	0	76	60	
1975	84	93	95	91	99	79	70	94	75	86	126	70	0	85	70	
1976	79	98	99	97	103	68	58	80	99	90	75	70	0	83	48	
1977	100	100	100	100	100	100	100	100	100	100	100	100	0	100	100	
1978	102	101	103	100	101	99	97	101	67	100	132	103	0	83	108	
1979	105	104	109	102	105	104	97	105	74	105	110	82	0	103	131	
1980	106	110	120	105	106	102	100	97	85	101	136	85	0	106	116	
1981	112	111	116	108	111	109	116	99	114	106	112	99	0	108	108	
1982	115	110	109	110	116	115	116	107	93	121	168	101	0	83	127	
1983	97	114	115	114	119	87	66	100	73	99	112	101	0	68	113	
1984	112	112	113	111	123	110	105	105	107	113	144	99	0	67	124	
1985	115	117	114	118	128	113	115	102	117	117	163	113	0	67	115	
1986	110	116	114	115	136	107	109	102	85	96	126	114	0	59	119	
1987	105	118	119	115	146	100	93	87	75	112	117	139	0	34	130	
1988	85	119	119	116	146	67	49	69	49	84	102	109	0	28	94	
1989 14/	109	117	118	111	157	101	101	80	87	105	107	122	0	47	133	

1/ Horses and mules excluded. 2/ Includes clipped wool, honey, and beeswax. These items are not included in the separate groups of livestock and livestock products shown. 3/ Cattle and calves, sheep and lambs, and hogs. 4/ Butter, butterfat, wholesale milk, retail milk, and milk consumed on farms. 5/ Chicken eggs, commercial broilers, chickens, and turkeys. 6/ Includes hayseeds, pasture seeds, and cover-crop seeds, and some miscellaneous crop production not included in separate groups of crops shown. Farm gardens excluded after 1964. 7/ Corn for grain, oats, and barley. 8/ All hay and corn silage. 9/ All wheat and rye. Buckwheat was excluded after 1964. 10/ Potatoes, dry edible beans, dry field peas, truck crops for processing, and truck crops for fresh market. 11/ Fruits, berries, and tree nuts. 12/ Sugar beets and maple syrup. 13/ Soybeans and flaxseed. 14/ Preliminary.

Table 4--Farm production: Indexes of farm output by enterprise group, Corn Belt region, 1947-89
(1977=100)

Year	Farm out- put	Livestock and livestock products <u>1/</u>					Crops									
		All <u>2/</u>	Meat ani- mals <u>3/</u>	Dairy prod- ucts <u>4/</u>	Poul- try and eggs <u>5/</u>	All <u>6/</u>	Feed grains <u>7/</u>	Hay and for- age <u>8/</u>	Food grains <u>9/</u>	Vege- tables <u>10/</u>	Fruits and nuts <u>11/</u>	Sugar crops <u>12/</u>	Cotton <u>13/</u>	Tobac- co : <u>14/</u>	Oil crops <u>14/</u>	
1947	48	90	77	134	124	35	34	71	52	147	381	78	0	81	15	
1948	62	87	75	131	120	52	60	70	64	172	304	77	0	106	19	
1949	60	94	81	134	128	48	51	72	65	146	433	100	0	107	19	
1950	59	98	87	133	131	46	47	81	50	150	338	104	0	94	23	
1951	59	101	91	129	132	44	46	85	42	150	328	61	0	97	22	
1952	63	99	89	128	128	50	55	80	61	135	263	64	0	114	22	
1953	62	98	88	135	128	48	50	80	80	134	235	75	0	92	20	
1954	64	102	91	138	133	49	51	86	67	128	218	89	0	111	25	
1955	67	106	97	137	128	52	55	86	68	129	139	97	0	81	25	
1956	68	105	95	139	134	54	56	82	70	140	184	86	0	82	30	
1957	67	104	94	137	130	52	54	91	53	133	190	95	0	76	32	
1958	71	103	94	133	135	58	59	94	68	141	204	104	0	63	38	
1959	74	108	101	128	134	60	67	87	55	148	184	122	0	85	34	
1960	75	104	96	128	126	62	69	90	66	158	185	82	0	81	35	
1961	75	108	100	133	131	61	62	89	72	149	184	83	0	92	44	
1962	75	107	100	133	122	62	64	93	59	152	165	104	0	114	44	
1963	80	110	105	133	117	68	71	93	82	141	112	100	0	120	45	
1964	77	112	107	134	117	63	64	96	78	145	176	106	0	96	43	
1965	82	105	99	128	115	71	76	95	62	166	156	141	0	93	51	
1966	81	106	101	121	114	71	75	94	72	159	127	123	0	95	52	
1967	87	110	108	116	115	77	87	93	82	170	136	103	0	87	53	
1968	86	107	106	111	106	76	79	93	63	177	143	147	0	82	66	
1969	84	104	103	109	101	77	81	92	56	152	165	143	0	92	66	
1970	80	107	107	106	105	69	69	89	48	142	149	161	0	89	66	
1971	94	107	107	106	108	88	98	93	56	148	172	195	0	76	70	
1972	92	105	104	106	113	87	93	92	65	134	137	135	0	94	77	
1973	90	101	101	100	107	88	91	95	43	120	116	78	0	66	90	
1974	80	100	100	104	102	74	74	93	73	102	128	112	0	100	68	
1975	95	93	91	97	100	94	97	100	93	110	177	166	0	104	87	
1976	97	99	99	99	102	92	104	97	94	108	113	127	0	104	74	
1977	100	100	100	100	100	100	100	100	100	100	100	100	0	100	100	
1978	105	99	99	96	106	105	112	106	51	102	122	85	0	96	102	
1979	115	102	103	95	108	117	124	104	87	105	130	62	0	70	117	
1980	105	104	105	98	111	104	104	94	108	88	151	77	0	93	105	
1981	115	104	104	100	116	116	126	101	131	83	124	65	0	105	108	
1982	112	98	95	102	121	118	128	101	92	95	120	10	0	128	114	
1983	80	101	99	105	122	73	57	82	92	89	112	54	0	82	87	
1984	103	96	93	99	124	104	114	98	97	98	116	50	0	113	94	
1985	122	99	95	105	129	124	137	97	73	103	121	61	0	90	121	
1986	116	95	89	105	137	118	127	92	54	97	96	71	0	72	122	
1987	108	97	92	102	155	107	108	86	69	100	134	63	0	59	115	
1988	87	100	94	104	164	76	68	81	87	65	109	57	0	66	81	
1989 <u>15/</u>	113	99	92	103	171	110	113	93	118	102	117	50	0	76	109	

1/ Horses and mules excluded. 2/ Includes clipped wool, mohair, honey, and beeswax. These items are not included in the separate groups of livestock and livestock products shown. 3/ Cattle and calves, sheep and lambs, and hogs. 4/ Butter, butterfat, wholesale milk, retail milk, and milk consumed on farms. 5/ Chicken eggs, commercial broilers, chickens, and turkeys. 6/ Includes hayseeds, pasture seeds, and cover-crop seeds, and some miscellaneous crop production not included in separate groups of crops shown. Farm gardens excluded after 1964. 7/ Corn for grain, oats, barley, and sorghum grain. 8/ All hay, sorghum forage, sorghum silage, and corn silage. 9/ All wheat, rye, and rice. Buckwheat was excluded after 1964. 10/ Potatoes, sweetpotatoes, truck crops for processing, and truck crops for fresh market. 11/ Fruits, berries, and tree nuts. 12/ Sugar beets, sorghum syrup, and maple syrup. 13/ Because of the small quantity of cotton produced, the index is not shown separately but is included in total crop production. 14/ Soybeans, flaxseed, and cottonseed. 15/ Preliminary.

Table 5--Farm production: Indexes of farm output by enterprise group, Northern Plains region, 1947-89
(1977=100)

Year	Farm out- put	Livestock and livestock products <u>1/</u>					Crops									
		All <u>2/</u>	Meat ani- mals <u>3/</u>	Dairy prod- ucts <u>4/</u>	Poul- try and eggs <u>5/</u>	All <u>6/</u>	Feed grains <u>7/</u>	Hay and for- age <u>8/</u>	Food grains <u>9/</u>	Vege- tables <u>10/</u>	Fruits and nuts <u>11/</u>	Sugar crops <u>12/</u>	Cotton <u>13/</u>	Tobac- co <u>14/</u>	Oil crops <u>15/</u>	
1947	56	64	53	110	286	50	31	56	77	80	0	25	0	0	25	
1948	59	61	51	103	254	54	44	58	68	87	0	17	0	0	33	
1949	49	63	53	99	261	42	33	58	48	78	0	20	0	0	26	
1950	56	65	56	100	268	50	41	65	57	81	0	26	0	0	33	
1951	54	71	63	98	273	45	35	70	52	53	0	24	0	0	31	
1952	59	71	63	95	254	51	35	65	71	59	0	27	0	0	27	
1953	54	71	63	99	255	45	35	72	48	63	0	26	0	0	37	
1954	56	75	68	101	255	46	38	76	45	67	0	30	0	0	43	
1955	53	78	72	100	245	42	29	73	47	53	0	27	0	0	42	
1956	52	74	67	101	252	41	26	71	46	64	0	31	0	0	49	
1957	59	68	60	99	254	53	51	91	46	56	0	35	0	0	33	
1958	71	71	64	96	254	68	57	81	83	71	0	35	0	0	50	
1959	61	77	71	96	249	53	51	70	53	65	0	39	0	0	29	
1960	72	74	67	97	236	69	64	86	75	70	0	45	0	0	41	
1961	65	80	74	102	235	56	48	77	61	73	0	44	0	0	37	
1962	72	82	77	102	218	65	60	102	62	67	0	41	0	0	52	
1963	71	88	84	101	197	61	60	92	54	69	0	61	0	0	49	
1964	72	95	92	105	196	59	44	90	63	58	0	54	0	0	45	
1965	75	87	83	103	189	66	56	100	68	73	0	44	0	0	68	
1966	77	93	90	103	181	67	61	93	66	76	0	53	0	0	67	
1967	80	98	95	104	182	69	61	95	76	72	0	47	0	0	57	
1968	83	99	97	106	153	74	63	92	85	80	0	65	0	0	67	
1969	87	97	95	103	136	81	76	96	86	82	0	82	0	0	76	
1970	82	103	102	104	133	71	62	90	79	79	0	69	0	0	58	
1971	97	107	106	106	135	90	83	105	105	86	0	74	0	0	51	
1972	97	109	109	104	130	89	88	112	91	85	0	73	0	0	64	
1973	100	107	106	106	125	95	91	107	104	90	0	75	0	0	81	
1974	86	111	112	103	112	75	60	94	92	99	0	78	0	0	62	
1975	92	97	97	98	110	86	74	97	103	90	0	94	0	0	71	
1976	88	100	100	101	104	79	73	79	101	88	0	99	0	0	44	
1977	100	100	100	100	100	100	100	100	100	100	0	100	0	0	100	
1978	104	100	100	94	96	106	106	112	98	109	0	108	0	0	113	
1979	116	107	109	93	99	118	113	112	108	100	0	88	0	0	183	
1980	98	110	112	97	100	92	78	87	103	120	0	88	0	0	124	
1981	121	111	112	103	102	118	111	104	111	179	0	108	0	0	180	
1982	121	105	106	101	102	122	106	109	131	130	0	79	0	0	193	
1983	101	110	110	106	99	94	69	99	112	112	0	82	0	0	144	
1984	119	108	109	96	97	119	111	106	124	138	0	86	0	0	165	
1985	129	111	113	102	106	130	135	90	128	147	0	81	0	0	190	
1986	128	109	110	101	110	130	131	109	108	180	0	95	0	0	212	
1987	122	114	115	101	127	122	115	95	111	185	0	94	0	0	214	
1988	103	115	117	101	124	92	95	71	72	135	0	86	0	0	165	
1989 <u>15/</u>	112	118	120	99	129	102	106	77	79	130	0	88	0	0	183	

1/ Horses and mules excluded. 2/ Includes clipped wool, honey, and beeswax. These items are not included in the separate groups of livestock and livestock products shown. 3/ Cattle and calves, sheep and lambs, and hogs. 4/ Butter, butterfat, wholesale milk, retail milk, and milk consumed on farms. 5/ Chicken eggs, commercial broilers, chickens, and turkeys. 6/ Includes hayseeds, pasture seeds, and cover-crop seeds, and some miscellaneous crop production not included in separate groups of crops shown. Farm gardens excluded after 1964. 7/ Corn for grain, oats, barley, and sorghum grain. 8/ All hay, sorghum forage, sorghum silage, and corn silage. 9/ All wheat and rye. 10/ Potatoes, sweetpotatoes, dry edible beans, dry field peas, truck crops for processing, and truck crops for fresh market. 11/ Because of the small quantity, the index is not shown separately but is included in total crop production. 12/ Sugar beets. 13/ Tobacco was excluded after 1957. 14/ Soybeans and flaxseed. 15/ Preliminary

Table 6--Farm production: Indexes of farm output by enterprise group, Appalachian region, 1947-89
(1977=100)

Year	Farm out- put	Livestock and livestock products <u>1/</u>					Crops									
		All <u>2/</u>	Meat ani- mals <u>3/</u>	Dairy prod- ucts <u>4/</u>	Poul- try and eggs <u>5/</u>	All <u>6/</u>	Feed grains <u>7/</u>	Hay and for- age <u>8/</u>	Food grains <u>9/</u>	Vege- tables <u>10/</u>	Fruits and nuts <u>11/</u>	Sugar crops <u>12/</u>	Cotton	Tobac- co	Oil crops <u>13/</u>	
1947	:	81	62	64	99	35	97	84	88	87	189	172	0	323	108	25
1948	:	84	62	65	99	35	102	94	86	81	189	183	0	448	103	31
1949	:	81	66	66	103	39	95	87	93	72	153	159	0	366	99	26
1950	:	80	67	68	105	40	93	88	89	63	160	179	0	194	104	25
1951	:	87	68	71	104	41	100	83	84	75	131	173	0	355	121	31
1952	:	84	70	72	103	44	95	62	79	82	119	181	0	400	118	31
1953	:	83	70	69	108	45	92	70	78	92	134	127	0	382	105	27
1954	:	84	72	72	108	46	92	66	76	80	123	177	0	302	117	25
1955	:	87	73	74	108	46	96	82	94	69	132	82	0	318	111	26
1956	:	91	77	77	111	52	99	88	87	87	125	156	0	302	113	36
1957	:	77	77	77	110	55	79	64	84	61	129	130	0	214	86	32
1958	:	83	77	76	105	58	88	80	100	64	133	165	0	223	91	36
1959	:	85	80	83	103	60	89	84	88	75	129	145	0	325	92	36
1960	:	87	79	80	102	59	92	84	89	71	136	144	0	270	99	39
1961	:	89	81	81	104	64	93	71	96	84	128	145	0	274	106	40
1962	:	92	82	83	103	64	96	70	89	47	133	132	0	273	118	43
1963	:	94	83	85	100	66	99	71	87	56	121	123	0	332	124	43
1964	:	94	83	85	98	69	98	70	89	72	117	122	0	344	118	46
1965	:	90	84	82	101	72	92	82	96	61	123	137	0	282	95	54
1966	:	85	86	85	99	76	86	65	90	63	119	82	0	149	100	57
1967	:	91	89	90	99	79	92	95	98	98	129	108	0	61	100	63
1968	:	88	91	95	97	80	85	74	100	88	131	124	0	147	89	55
1969	:	92	93	98	97	83	91	78	102	84	130	134	0	171	95	62
1970	:	92	97	102	97	88	90	62	99	89	121	128	0	179	99	66
1971	:	95	98	105	97	88	93	88	105	108	121	133	0	217	88	70
1972	:	96	98	101	99	93	95	88	106	90	119	113	0	218	92	75
1973	:	97	96	102	93	90	98	95	110	70	117	109	0	194	93	91
1974	:	98	98	106	93	90	99	96	107	121	107	117	0	144	101	81
1975	:	102	95	102	94	86	105	94	108	111	99	133	0	87	114	92
1976	:	107	99	102	98	94	108	130	105	110	103	91	0	97	115	82
1977	:	100	100	100	100	100	100	100	100	100	100	100	0	100	100	100
1978	:	109	101	101	96	104	110	112	112	74	104	154	0	91	108	115
1979	:	106	108	110	97	116	105	121	108	103	116	150	0	69	80	134
1980	:	102	112	113	99	120	96	90	103	158	102	146	0	82	95	91
1981	:	123	111	107	102	126	124	133	113	308	114	143	0	133	110	131
1982	:	121	110	101	104	128	126	142	121	271	123	115	0	143	108	134
1983	:	91	115	111	104	132	79	57	100	200	101	136	0	63	74	75
1984	:	118	114	109	97	136	117	143	126	240	115	142	0	148	94	119
1985	:	115	117	108	102	144	112	149	134	156	136	105	0	174	84	109
1986	:	100	121	111	103	152	90	105	107	125	113	110	0	166	64	99
1987	:	99	124	110	100	168	88	89	125	176	115	133	0	237	63	80
1988	:	104	127	115	99	173	91	75	116	232	110	135	0	233	74	85
1989 <u>14/</u>	:	114	131	119	97	180	101	106	154	228	111	86	0	199	73	96

1/ Horses and mules excluded. 2/ Includes clipped wool, honey, and beeswax. These items are not included in the separate groups of livestock and livestock products shown. 3/ Cattle and calves, sheep and lambs, and hogs. 4/ Butter, butterfat, wholesale milk, retail milk, and milk consumed on farms. 5/ Chicken eggs, commercial broilers, chickens, and turkeys. 6/ Includes hayseeds, pasture seeds, and cover-crop seeds, and some miscellaneous crop production not included in separate groups of crops shown. Farm gardens excluded after 1964. 7/ Corn for grain, oats, barley, and sorghum grain. 8/ All hay, sorghum forage, sorghum silage, and corn silage. 9/ All wheat and rye. Buckwheat excluded after 1964. 10/ Potatoes, sweetpotatoes, truck crops for processing, and truck crops for fresh market. 11/ Fruits, berries, and tree nuts. 12/ Sorghum syrup not reported after 1959. 13/ Soybeans, peanuts for nuts, and cottonseed. Peanuts hogged were excluded after 1964. 14/ Preliminary.

Table 7--Farm production: Indexes of farm output by enterprise group, Southeast region, 1947-89
(1977=100)

Year	Farm out- put	Livestock and livestock products <u>1/</u>					Crops									
		All <u>2/</u>	Meat ani- mals <u>3/</u>	Dairy prod- ucts <u>4/</u>	Poul- try and eggs <u>5/</u>	All <u>6/</u>	Feed grains: <u>7/</u>	Hay and for- age <u>8/</u>	Food grains: <u>9/</u>	Vege- tables: <u>10/</u>	Fruits and nuts <u>11/</u>	Sugar crops <u>12/</u>	Cotton:	Tobac- co :	Oil crops <u>13/</u>	
1947	59	29	52	76	9	83	170	48	57	76	40	33	475	103	41	
1948	63	28	50	75	9	89	177	57	46	79	39	29	599	83	46	
1949	59	30	50	77	11	81	175	62	33	91	35	26	428	96	36	
1950	59	33	55	80	12	79	188	63	30	96	41	25	314	92	35	
1951	69	35	60	80	14	92	168	61	44	95	49	22	581	116	37	
1952	64	38	64	81	16	83	122	61	53	98	45	23	488	110	31	
1953	71	39	64	85	17	92	190	69	60	99	56	23	514	111	34	
1954	64	43	67	84	21	76	123	54	49	101	50	19	395	102	23	
1955	76	45	71	85	22	95	212	83	48	115	48	19	498	128	34	
1956	74	49	73	88	27	88	189	66	75	108	54	19	392	110	34	
1957	66	51	71	88	32	74	189	60	69	105	44	20	271	78	28	
1958	68	54	73	84	36	76	213	74	61	89	51	19	232	81	33	
1959	73	58	76	85	41	80	191	63	64	90	51	24	353	92	32	
1960	74	58	71	84	44	83	184	62	58	95	51	20	358	103	37	
1961	78	62	72	84	50	86	189	70	73	110	55	26	329	108	36	
1962	80	64	74	82	53	88	148	61	41	101	61	47	358	125	36	
1963	83	67	76	81	58	91	187	79	57	110	52	54	415	113	43	
1964	81	70	78	80	62	86	167	86	73	107	34	74	438	103	48	
1965	87	74	77	83	68	93	194	90	58	109	53	64	406	92	51	
1966	78	79	79	85	77	79	162	92	63	107	47	71	225	85	49	
1967	91	83	82	89	81	95	241	101	99	118	76	76	129	116	60	
1968	84	86	89	90	82	82	164	94	102	108	60	62	195	86	52	
1969	89	90	95	91	87	89	148	101	99	108	75	60	202	87	61	
1970	90	93	97	93	89	89	114	98	103	95	75	66	215	102	67	
1971	101	96	102	97	91	103	221	106	172	99	82	71	275	92	80	
1972	99	97	101	99	93	100	188	98	89	108	78	106	263	90	75	
1973	101	95	98	95	92	106	196	114	86	109	91	93	241	85	84	
1974	106	97	101	95	94	114	242	112	106	102	89	88	260	121	98	
1975	108	96	100	98	92	114	253	123	103	109	92	117	119	124	110	
1976	112	99	100	101	97	115	344	123	107	117	96	108	148	103	93	
1977	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	
1978	111	102	96	98	107	113	204	125	101	113	97	108	110	100	118	
1979	120	110	105	99	116	124	253	132	137	120	92	116	126	81	152	
1980	107	111	110	100	116	106	150	104	312	124	114	118	94	86	82	
1981	127	111	103	103	120	131	212	125	775	148	103	112	162	98	129	
1982	125	108	94	103	119	133	201	144	792	159	82	141	184	84	146	
1983	109	107	92	102	118	110	142	121	511	154	82	129	77	76	108	
1984	121	106	89	94	122	126	220	145	548	163	80	141	196	70	129	
1985	122	109	88	99	126	123	238	141	504	172	71	145	238	66	116	
1986	104	111	88	99	130	96	125	105	295	144	79	149	138	52	78	
1987	108	114	86	97	140	102	144	134	292	143	83	150	186	60	75	
1988	117	119	85	101	147	109	87	129	429	151	94	148	195	68	90	
1989 <u>14/</u>	118	120	83	104	151	109	143	148	445	155	73	147	196	70	93	

1/ Horses and mules excluded. 2/ Includes clipped wool, honey, and beeswax. These items are not included in the separate groups of livestock and livestock products shown. 3/ Cattle and calves, sheep and lambs, and hogs. 4/ Butter, butterfat, wholesale milk, retail milk, and milk consumed on farms. 5/ Chicken eggs, commercial broilers, chickens, and turkeys. 6/ Includes hayseeds, pasture seeds, and cover-crop seeds, and some miscellaneous crop production not included in separate groups of crops shown. Farm gardens excluded after 1964. 7/ Corn for grain, oats, barley, and sorghum grain. 8/ All hay, sorghum forage, sorghum silage, and corn silage. 9/ All wheat and rye. 10/ Potatoes, sweetpotatoes, truck crops for processing, and truck crops for fresh market. 11/ Fruits, berries, and tree nuts. Citrus production is on year of harvest 1960 to date. Earlier years on year of bloom. 12/ Sugarcane for sugar and seed, sugarcane syrup, and sorghum syrup. 13/ Soybeans, peanuts for nuts, and cottonseed. Tungnuts and peanuts hogged were excluded after 1964. 14/ Preliminary.

Table 8--Farm production: Indexes of farm output by enterprise group, Delta States region, 1947-89
(1977=100)

Year	Farm out- put	Livestock and livestock products <u>1/</u>					Crops								
		All <u>2/</u>	Meat ani- mals <u>3/</u>	Dairy prod- ucts <u>4/</u>	Poul- try and eggs <u>5/</u>	All <u>6/</u>	Feed grains <u>7/</u>	Hay and for- age <u>8/</u>	Food grains <u>9/</u>	Vege- tables <u>10/</u>	Fruits and nuts <u>11/</u>	Sugar crops <u>12/</u>	Cotton	Tobac- co <u>13/</u>	Oil crops <u>14/</u>
1947	51	36	64	123	9	65	326	68	26	322	223	79	100	0	14
1948	66	36	61	124	9	88	402	75	30	327	239	87	153	0	21
1949	56	38	61	124	11	71	336	71	29	272	209	80	113	0	17
1950	53	39	64	125	13	65	404	77	28	292	196	86	85	0	18
1951	57	41	67	122	14	69	308	69	32	220	213	70	108	0	19
1952	60	43	71	121	15	71	221	59	34	214	169	87	121	0	22
1953	66	45	76	130	15	77	258	64	39	217	198	87	134	0	21
1954	62	47	79	130	16	69	260	58	52	220	143	86	105	0	19
1955	71	47	84	129	15	83	399	83	45	252	88	88	128	0	27
1956	65	50	84	129	19	73	356	66	40	219	139	74	108	0	27
1957	56	51	84	127	21	59	305	79	36	208	106	74	72	0	25
1958	56	51	80	117	25	58	292	78	34	199	129	75	65	0	33
1959	68	54	78	112	31	76	278	67	42	211	121	77	108	0	40
1960	66	55	76	111	33	72	221	67	44	174	142	83	101	0	38
1961	71	61	79	115	41	76	235	72	45	192	168	103	107	0	40
1962	72	63	79	111	44	76	159	62	51	191	77	80	111	0	43
1963	80	67	81	105	50	87	168	71	58	182	180	121	129	0	45
1964	84	71	84	104	56	90	156	81	65	170	137	105	131	0	50
1965	84	75	84	106	61	88	137	86	64	195	105	95	120	0	57
1966	77	80	87	106	70	77	133	84	74	184	124	94	76	0	62
1967	78	85	91	106	76	77	139	94	83	205	116	115	59	0	69
1968	89	86	91	104	78	91	124	95	91	202	84	105	93	0	78
1969	84	89	93	106	82	84	95	86	77	195	112	80	88	0	73
1970	89	93	97	105	88	90	132	94	71	182	73	97	96	0	81
1971	93	96	101	106	90	92	132	89	72	165	109	91	106	0	80
1972	97	99	101	107	96	96	100	85	73	172	67	112	124	0	74
1973	92	94	97	102	90	94	68	103	78	151	125	91	101	0	87
1974	88	97	110	100	88	87	71	91	97	136	37	92	91	0	73
1975	89	92	98	99	86	88	83	97	116	110	94	90	62	0	92
1976	93	99	101	100	97	89	128	94	116	119	41	105	74	0	86
1977	100	100	100	100	100	100	100	100	100	100	100	100	100	0	100
1978	101	100	91	98	107	100	98	106	126	98	62	76	75	0	107
1979	111	102	84	96	115	115	84	116	118	100	60	70	82	0	139
1980	87	103	89	96	112	83	48	85	144	75	51	77	61	0	77
1981	112	105	87	99	118	112	124	112	216	92	82	93	87	0	95
1982	114	103	79	101	118	118	142	113	198	86	43	91	95	0	108
1983	89	103	81	100	118	82	176	101	131	77	70	82	53	0	77
1984	112	105	77	95	125	112	336	105	172	80	41	66	99	0	98
1985	107	107	73	98	131	105	567	109	143	94	50	79	93	0	86
1986	96	110	78	92	135	89	509	105	149	93	68	93	74	0	62
1987	104	117	80	90	147	98	315	115	148	87	55	84	109	0	69
1988	114	119	81	93	149	110	222	104	195	87	71	100	114	0	79
1989 <u>15/</u>	107	123	82	93	156	98	223	123	185	82	46	105	98	0	64

1/ Horses and mules excluded. 2/ Includes clipped wool, honey, and beeswax. These items are not included in the separate groups of livestock and livestock products shown. 3/ Cattle and calves, sheep and lambs, and hogs. 4/ Butter, butterfat, wholesale milk, retail milk, and milk consumed on farms. 5/ Chicken eggs, commercial broilers, chickens, and turkeys. 6/ Includes hayseeds, pasture seeds, and cover-crop seeds, and some miscellaneous crop production not included in separate groups of crops shown. Farm gardens excluded after 1964. 7/ Corn for grain, oats, barley, and sorghum grain. 8/ All hay, sorghum forage, sorghum silage, and corn silage. 9/ All wheat and rice. 10/ Potatoes, sweetpotatoes, truck crops for processing, and truck crops for fresh market. 11/ Fruits, berries, and tree nuts. Citrus production is on year of harvest 1960 to date. Earlier years on year of bloom. 12/ Sugarcane for sugar and seed, sugarcane syrup, and sorghum syrup. 13/ Because of the small quantity of tobacco produced, the index is not shown separately but is included in total crop production. 14/ Soybeans, peanuts for nuts, and cottonseed. Tungnuts and peanuts hogged were excluded after 1964. 15/ Preliminary.

Table 9--Farm production: Indexes of farm output by enterprise group, Southern Plains region, 1947-89
(1977=100)

Year	Farm out- put	Livestock and livestock products 1/					Crops									
		All 2/	Meat ani- mals 3/	Dairy prod- ucts 4/	Poul- try and eggs 5/	All 6/	Feed grains 7/	Hay and for- age 8/	Food grains 9/	Vege- tables 10/	Fruits and nuts 11/	Sugar crops 12/	Cotton	Tobac- co 13/	Oil crops 13/	
1947	61	53	43	114	53	64	39	55	71	121	176	0	63	0	51	
1948	55	51	42	107	49	57	37	64	53	108	130	0	59	0	48	
1949	71	53	44	106	55	79	43	58	58	120	103	0	112	0	74	
1950	55	56	48	110	56	53	59	61	27	111	96	0	54	0	45	
1951	56	57	50	103	57	54	36	57	27	81	47	0	76	0	49	
1952	58	58	51	99	59	55	28	48	52	94	58	0	69	0	43	
1953	59	56	49	100	57	57	30	61	39	100	69	0	80	0	53	
1954	60	56	49	99	57	58	48	51	43	102	54	0	71	0	43	
1955	61	58	52	97	57	59	54	73	22	110	70	0	76	0	52	
1956	57	59	52	98	65	52	40	42	36	110	54	0	65	0	40	
1957	60	54	45	96	65	59	74	61	30	107	93	0	66	0	43	
1958	69	55	47	95	68	73	84	56	61	109	70	0	78	0	55	
1959	69	60	52	93	70	71	78	56	51	100	73	0	81	0	56	
1960	74	61	55	92	66	76	78	61	66	114	97	0	81	0	58	
1961	75	65	57	97	75	76	72	61	64	105	77	0	87	0	62	
1962	71	66	60	96	74	67	61	63	45	99	44	0	85	0	59	
1963	72	68	62	92	76	68	66	59	49	104	63	0	80	0	56	
1964	73	69	63	91	80	69	62	73	60	107	66	0	74	0	58	
1965	81	69	62	94	81	81	78	75	75	110	95	0	85	0	63	
1966	72	71	65	93	87	67	81	72	64	92	52	0	57	0	59	
1967	72	74	67	96	94	66	85	80	59	110	101	0	50	0	56	
1968	80	75	69	94	93	79	91	95	79	100	76	0	64	0	70	
1969	75	80	76	94	92	70	87	76	70	108	78	0	53	0	61	
1970	78	88	85	96	100	71	94	80	60	110	86	0	57	0	59	
1971	72	87	84	100	97	62	85	84	47	106	94	0	47	0	52	
1972	83	94	92	102	99	76	88	79	54	100	120	0	78	0	72	
1973	95	96	95	98	96	96	117	105	88	108	110	0	86	0	79	
1974	79	101	102	101	96	70	95	86	72	88	94	0	47	0	58	
1975	88	94	94	95	92	81	119	92	101	88	111	0	43	0	61	
1976	90	95	93	98	102	84	117	92	91	99	70	0	59	0	68	
1977	100	100	100	100	100	100	100	100	100	100	100	0	100	0	100	
1978	88	96	93	101	107	82	91	96	77	110	68	0	70	0	82	
1979	103	98	94	99	120	107	94	120	117	104	135	0	102	0	109	
1980	85	103	99	106	124	78	74	86	110	99	49	0	60	0	62	
1981	112	103	99	107	130	105	99	107	120	103	131	0	103	0	88	
1982	98	107	104	110	124	87	102	106	120	109	76	0	50	0	78	
1983	86	103	98	115	124	73	67	116	97	108	118	0	43	0	55	
1984	92	101	95	111	125	85	87	95	110	110	65	0	66	0	69	
1985	97	101	95	115	131	94	99	133	111	109	81	0	71	0	70	
1986	86	107	99	117	145	77	90	122	89	113	51	0	47	0	54	
1987	91	108	99	121	154	85	75	125	76	102	55	0	85	0	74	
1988	97	111	100	134	161	87	67	96	92	99	115	0	94	0	77	
1989 14/	92	113	99	142	173	79	78	149	75	109	70	0	54	0	73	

1/ Horses and mules excluded. 2/ Includes clipped wool, mohair, honey, and beeswax. These items are not included in the separate groups of livestock and livestock products shown. 3/ Cattle and calves, sheep and lambs, and hogs. 4/ Butter, butterfat, wholesale milk, retail milk, and milk consumed on farms. 5/ Chicken eggs, commercial broilers, chickens, and turkeys. 6/ Includes hayseeds, pasture seeds, and cover-crop seeds, and some miscellaneous crop production not included in separate groups of crops shown. Farm gardens excluded after 1964. 7/ Corn for grain, oats, barley, and sorghum grain. 8/ All hay, sorghum forage, sorghum silage, and corn silage. 9/ All wheat, rye, and rice. 10/ Potatoes, sweetpotatoes, truck crops for processing, and truck crops for fresh market. 11/ Fruits, berries, and tree nuts. Citrus production is on year of harvest 1960 to date. Earlier years on year of bloom. 12/ Because of the small quantities produced, the index is not shown separately but is included in total crop production. 13/ Soybeans, peanuts for nuts, cottonseed, and flaxseed. Peanuts hogged were excluded after 1964. 14/ Preliminary.

Table 10--Farm production: Indexes of farm output by enterprise group, Mountain region, 1947-89
(1977=100)

Year	Farm out- put	Livestock and livestock products <u>1/</u>					Crops									
		All <u>2/</u>	Meat ani- mals <u>3/</u>	Dairy prod- ucts <u>4/</u>	Poul- try and eggs <u>5/</u>	All <u>6/</u>	Feed grains <u>7/</u>	Hay and for- age <u>8/</u>	Food grains <u>9/</u>	Vege- tables <u>10/</u>	Fruits and nuts <u>11/</u>	Sugar crops <u>12/</u>	Cotton	Tobac- co	Oil crops <u>13/</u>	
1947	61	60	54	73	80	59	36	55	68	69	58	110	32	0	53	
1948	63	61	55	71	78	62	39	54	74	75	53	69	43	0	76	
1949	61	60	53	68	86	60	40	54	60	68	53	78	63	0	74	
1950	62	62	56	69	87	61	40	56	65	71	37	94	50	0	57	
1951	65	67	62	69	88	62	30	55	69	62	46	78	82	0	82	
1952	69	68	64	68	83	67	28	64	73	66	55	73	98	0	91	
1953	74	69	65	73	79	72	30	67	81	72	39	85	107	0	103	
1954	68	71	67	76	84	63	42	61	54	68	53	85	94	0	95	
1955	71	70	67	75	80	67	48	67	65	68	50	80	76	0	80	
1956	70	71	67	75	81	66	39	68	58	73	47	88	86	0	86	
1957	74	69	64	76	80	74	61	78	66	76	52	105	76	0	79	
1958	80	73	69	77	82	79	61	74	84	86	46	106	79	0	84	
1959	78	74	71	79	82	75	58	71	71	86	53	109	80	0	81	
1960	78	76	73	80	82	75	52	72	71	83	43	112	88	0	88	
1961	78	77	74	81	89	73	49	73	59	94	49	114	87	0	86	
1962	80	78	75	81	85	76	57	81	59	85	52	121	93	0	95	
1963	83	82	80	81	86	78	54	81	60	92	51	154	85	0	88	
1964	81	83	83	81	81	75	54	80	64	76	63	136	81	0	83	
1965	86	85	85	82	81	80	63	87	68	92	60	119	78	0	81	
1966	84	89	89	82	89	77	67	81	72	97	61	120	53	0	58	
1967	89	92	93	83	96	82	69	91	85	91	67	130	47	0	53	
1968	92	95	97	85	89	85	69	86	88	90	79	152	70	0	74	
1969	94	99	101	85	89	87	83	92	75	97	96	176	60	0	64	
1970	95	104	107	87	91	87	90	97	78	98	78	140	48	0	54	
1971	99	107	111	87	91	89	85	94	91	98	79	147	51	0	56	
1972	98	110	114	93	93	89	86	99	81	97	68	151	63	0	69	
1973	98	110	114	91	95	92	88	104	88	97	105	125	61	0	69	
1974	98	104	110	78	93	96	73	100	103	100	78	111	92	0	91	
1975	104	102	104	95	100	98	85	102	116	97	110	141	52	0	57	
1976	108	103	104	97	102	103	94	102	126	105	91	138	73	0	75	
1977	100	100	100	100	100	100	100	100	100	100	100	100	100	0	100	
1978	112	107	108	101	106	109	109	110	113	114	98	115	94	0	96	
1979	106	104	104	105	106	108	108	109	106	106	104	106	111	0	110	
1980	114	109	108	114	105	114	106	106	134	107	98	123	118	0	118	
1981	127	110	106	124	113	122	124	112	145	101	113	135	134	0	131	
1982	121	109	105	131	110	118	133	113	146	101	106	104	95	0	103	
1983	114	112	107	136	112	109	115	109	142	92	120	95	66	0	69	
1984	115	110	105	132	112	112	132	109	124	102	100	92	98	0	101	
1985	109	113	106	145	110	106	118	100	111	113	127	93	85	0	92	
1986	115	112	105	147	108	115	133	111	128	126	94	121	69	0	73	
1987	118	111	103	145	119	121	130	111	133	141	135	125	89	0	87	
1988	111	117	108	154	128	105	108	98	87	138	102	123	94	0	96	
1989 <u>14/</u>	121	116	106	159	123	118	130	105	117	147	115	123	94	0	100	

1/ Horses and mules excluded. 2/ Includes clipped wool, mohair, honey, and beeswax. These items are not included in the separate groups of livestock and livestock products shown. 3/ Cattle and calves, sheep and lambs, and hogs. 4/ Butter, butterfat, wholesale milk, retail milk, and milk consumed on farms. 5/ Chicken eggs, commercial broilers, chickens, and turkeys. 6/ Includes hayseeds, pasture seeds, and cover-crop seeds, and some miscellaneous crop production not included in separate groups of crops shown. Farm gardens excluded after 1964. 7/ Corn for grain, oats, barley, and sorghum grain. 8/ All hay, sorghum forage, sorghum silage, and corn silage. 9/ All wheat and rye. 10/ Potatoes, sweetpotatoes, dry edible beans, dry field peas, truck crops for processing, and truck crops for fresh market. 11/ Fruits, berries, and tree nuts. Citrus production is on year of harvest 1960 to date. Earlier years on year of bloom. 12/ Sugar beets. 13/ Peanuts for nuts, flaxseed, and cottonseed. 14/ Preliminary

Table 11--Farm production: Indexes of farm output by enterprise group, Pacific region, 1947-89
(1977=100)

Year	Farm out- put	Livestock and livestock products ^{1/}					Crops								
		All	Meat ani- mals	Dairy prod- ucts	Poul- try and eggs	All	Feed grains	Hay and for- age	Food grains	Vege- tables	Fruits and nuts	Sugar crops	Cotton	Tobac- co	Oil crops
		2/	3/	4/	5/	6/	7/	8/	9/	10/	11/	12/			13/
1947	52	50	58	56	33	53	56	65	51	46	71	44	28	0	0
1948	52	50	58	54	35	54	62	61	59	47	64	40	35	0	0
1949	54	53	60	55	42	54	59	58	51	47	68	36	45	0	0
1950	55	56	64	55	45	56	74	65	55	48	67	55	35	0	0
1951	59	59	70	55	49	60	55	61	61	51	68	39	63	0	0
1952	61	61	72	55	51	62	67	65	66	52	70	39	65	0	0
1953	62	64	75	60	53	62	67	68	69	53	66	50	63	0	0
1954	64	66	77	62	54	63	108	69	59	54	69	66	53	0	0
1955	63	68	84	64	54	63	112	72	49	58	72	49	43	0	0
1956	66	69	81	65	58	66	117	75	53	63	71	53	52	0	0
1957	66	68	75	67	58	66	144	78	56	62	64	65	55	0	0
1958	67	70	78	67	61	66	119	75	58	63	67	57	57	0	0
1959	71	73	85	69	64	71	126	76	63	63	70	71	69	0	0
1960	70	76	88	71	68	68	119	78	57	62	66	63	70	0	0
1961	70	80	93	71	75	67	117	79	51	66	67	71	61	0	0
1962	73	81	94	72	78	70	118	79	61	66	67	77	69	0	0
1963	74	82	100	71	76	71	114	86	62	65	72	96	61	0	0
1964	77	84	100	73	80	75	117	88	69	65	79	106	63	0	0
1965	76	86	104	73	81	73	117	88	71	69	71	94	60	0	0
1966	77	87	105	74	85	75	122	88	73	75	78	80	44	0	0
1967	75	89	106	74	91	71	116	88	86	76	65	63	37	0	0
1968	81	90	108	76	88	79	109	87	87	87	70	92	56	0	0
1969	81	89	106	75	91	79	108	89	80	81	82	95	47	0	0
1970	81	94	111	80	95	78	122	90	83	81	76	114	42	0	0
1971	84	94	108	83	97	81	125	96	92	81	79	122	40	0	0
1972	86	98	112	88	95	84	102	99	98	89	71	137	63	0	0
1973	89	95	110	87	88	89	100	97	90	91	91	108	63	0	0
1974	95	97	109	89	94	97	91	99	117	97	93	89	93	0	0
1975	100	97	108	91	95	99	112	98	145	97	94	131	70	0	0
1976	103	100	107	97	99	101	114	99	135	94	99	128	89	0	0
1977	100	100	100	100	100	100	100	100	100	100	100	100	100	0	0
1978	98	101	100	100	103	96	111	96	121	99	94	97	70	0	0
1979	109	106	105	106	110	109	106	98	134	106	107	93	122	0	0
1980	117	111	103	113	117	117	122	105	175	103	121	92	111	0	0
1981	123	116	113	118	118	119	131	105	193	106	114	101	127	0	0
1982	121	118	116	121	116	118	152	106	156	111	123	76	110	0	0
1983	113	118	110	125	115	109	133	103	145	107	117	78	71	0	0
1984	125	122	117	128	119	121	163	109	157	117	126	84	104	0	0
1985	123	125	111	140	118	123	151	109	137	117	137	78	112	0	0
1986	117	128	113	143	121	115	131	119	125	118	124	80	81	0	0
1987	132	132	112	148	129	133	104	112	119	130	165	89	107	0	0
1988	133	139	125	154	132	130	95	111	126	129	160	81	101	0	0
1989 ^{14/}	136	141	119	158	136	133	89	112	126	147	158	74	96	0	0

^{1/} Horses and mules excluded. ^{2/} Includes clipped wool, mohair, honey, and beeswax. These items are not included in the separate groups of livestock and livestock products shown. ^{3/} Cattle and calves, sheep and lambs, and hogs. ^{4/} Butter, butterfat, wholesale milk, retail milk, and milk consumed on farms. ^{5/} Chicken eggs, commercial broilers, chickens, and turkeys. ^{6/} Includes hayseeds, pasture seeds, and cover-crop seeds, and some miscellaneous crop production not included in separate groups of crops shown. Farm gardens excluded after 1964. ^{7/} Corn for grain, oats, barley, and sorghum grain. ^{8/} All hay, sorghum forage, sorghum silage, and corn silage. ^{9/} All wheat and rye. ^{10/} Potatoes, sweetpotatoes, dry edible beans, dry field peas, truck crops for processing, and truck crops for fresh market. ^{11/} Fruits, berries, and tree nuts. Citrus production is on year of harvest 1960 to date. Earlier years on year of bloom. ^{12/} Sugar beets. ^{13/} Because of the small quantity of flaxseed and cottonseed produced, the index is not shown separately but is included in total crop production. ^{14/} Preliminary.

Table 12--Acreages of crops harvested and used for specified purposes, United States, 1947-89

Year	Crops harvested <u>1/</u>	Acreages used to produce goods for--				Total U.S. population, July 1 <u>5/</u>
		Exports <u>2/</u>	Domestic use			
			Feed for workstock <u>3/</u>	Other <u>4/</u>	Per capita	
		-----Million acres-----			Acres	Millions
1947	355	42	26	287	1.99	144
1948	356	52	24	280	1.90	147
1949	360	45	22	293	1.97	149
1950	345	50	19	276	1.82	152
1951	344	59	18	267	1.73	154
1952	349	36	15	298	1.90	157
1953	348	31	13	304	1.90	160
1954	346	37	11	298	1.84	162
1955	340	47	10	283	1.72	165
1956	324	60	9	255	1.52	168
1957	324	48	8	268	1.57	171
1958	324	44	7	273	1.57	174
1959	324	61	6	257	1.45	178
1960	324	64	5	255	1.41	181
1961	302	67	4	231	1.26	184
1962	295	66	4	225	1.20	187
1963	298	77	4	217	1.15	189
1964	298	74	4	220	1.15	192
1965	298	76	6/	222	1.14	194
1966	294	69	6/	225	1.14	197
1967	306	69	6/	237	1.19	199
1968	300	54	6/	246	1.22	201
1969	290	61	6/	229	1.13	203
1970	293	72	6/	221	1.08	205
1971	305	62	6/	243	1.17	208
1972	294	91	6/	203	.97	210
1973	321	96	6/	225	1.06	212
1974	328	99	6/	229	1.07	214
1975	336	100	6/	236	1.09	216
1976	337	97	6/	240	1.10	218
1977	345	112	6/	233	1.06	220
1978	338	114	6/	224	1.00	223
1979	348	125	6/	223	.99	225
1980	352	137	6/	215	.94	228
1981	366	129	6/	237	1.03	230
1982	362	113	6/	249	1.07	232
1983	306	124	6/	182	.77	235
1984	348	96	6/	252	1.06	237
1985	342	81	6/	261	1.09	239
1986	325	96	6/	229	.95	242
1987	302	106	6/	196	.81	244
1988	298	118	6/	180	.73	246
1989 <u>7/</u>	318	102	6/	216	.87	249

^{1/} Area in principal crops harvested as reported by the Crop Reporting Board plus acreages in fruits, tree nuts, and farm gardens. ^{2/} Acreages for exports relate to exports for year beginning July 1 through 1974 and for October 1 thereafter. ^{3/} On farms, in cities and mines. ^{4/} Includes products used by U.S. military forces in this country and abroad and by our domestic civilian population. ^{5/} Includes persons in U.S. military forces in this country and abroad. ^{6/} Data for horses and mules discontinued after 1964. ^{7/} Preliminary.

Table 13--Cropland used for crops and index of crop production per acre, United States, 1947-89

Year	Cropland used for crops					Index of crop production per acre (1977=100)
	Cropland harvested <u>1/</u>	Crop failure	Cultivated summer fallow	Total	Index (1977=100) <u>2/</u>	
	-----Million acres-----					
1947	346	8	19	373	99	57
1948	348	9	21	378	100	64
1949	352	9	26	387	102	60
1950	336	12	29	377	100	59
1951	336	17	28	381	102	59
1952	341	11	28	380	100	62
1953	341	13	26	380	100	62
1954	339	13	28	380	100	61
1955	333	16	29	378	100	63
1956	317	22	30	369	98	64
1957	316	12	30	358	95	65
1958	316	9	30	355	94	73
1959	317	10	31	358	95	72
1960	317	6	32	355	94	77
1961	296	11	33	340	90	78
1962	287	10	34	331	88	81
1963	291	10	36	337	89	83
1964	292	6	37	335	89	81
1965	292	6	38	336	89	85
1966	289	5	38	332	88	83
1967	301	7	32	340	90	86
1968	296	6	33	335	89	89
1969	286	6	41	333	88	91
1970	289	5	38	332	88	88
1971	300	6	34	340	90	96
1972	289	7	38	334	88	99
1973	316	5	31	352	93	99
1974	322	8	31	361	96	88
1975	330	6	31	367	97	96
1976	330	8	31	369	98	94
1977	338	9	31	378	100	100
1978	330	7	32	369	97	105
1979	340	6	32	378	100	113
1980	342	10	30	382	101	100
1981	351	6	30	387	102	115
1982	347	5	31	383	101	116
1983	294	5	34	333	88	100
1984	337	6	30	373	99	112
1985	333	8	31	372	98	120
1986	316	9	32	357	94	116
1987	293	6	32	331	88	123
1988	287	10	30	327	87	106
1989 <u>3/</u>	306	8	27	341	90	119

1/ Land supporting one or more harvested crops. 2/ Computed from unrounded data. 3/ Preliminary.

Table 14--Cropland used for crops,
Northeast region, 1947-89

Year	Crop- land har- vested 1/	Crop fail- ure	Culti- vated summer: fallow 2/	Crop- land used for crops
Million acres				
1947	17.9	0.2	0	18.1
1948	17.8	.1	0	17.9
1949	17.1	.1	0	17.2
1950	16.9	.2	0	17.1
1951	16.9	.1	0	17.0
1952	16.8	.1	0	16.9
1953	16.7	.1	0	16.8
1954	16.4	.2	0	16.6
1955	16.2	.2	0	16.4
1956	15.7	.2	0	15.9
1957	15.5	.2	0	15.7
1958	15.3	.2	0	15.5
1959	14.9	.3	0	15.2
1960	14.8	.1	0	14.9
1961	14.3	.2	0	14.5
1962	14.0	.2	0	14.2
1963	14.0	.2	0	14.2
1964	13.8	.2	0	14.0
1965	13.5	.2	0	13.7
1966	13.6	.1	0	13.7
1967	13.2	.2	0	13.4
1968	12.6	.1	0	12.7
1969	12.1	.1	0	12.2
1970	12.4	.1	0	12.5
1971	12.5	.1	0	12.6
1972	12.1	.2	0	12.3
1973	12.5	.1	0	12.6
1974	12.8	.1	0	12.9
1975	12.8	.2	0	13.0
1976	13.0	.1	0	13.1
1977	13.0	.2	0	13.2
1978	13.1	.1	0	13.2
1979	13.3	.1	0	13.4
1980	13.5	.1	0	13.6
1981	13.5	.1	0	13.6
1982	13.5	.1	0	13.6
1983	12.7	.1	0	12.8
1984	13.2	.1	0	13.3
1985	13.2	.1	0	13.3
1986	12.7	.1	0	12.8
1987	11.7	.1	0	11.8
1988	11.2	.1	0	11.3
1989 3/	11.5	.1	0	11.6

1/ Land supporting one or more harvested crops. 2/ Not estimated for farm production regions east of the Plains States.
3/ Preliminary.

Table 15--Cropland used for crops,
Lake States region, 1947-89

Year	Crop- land har- vested 1/	Crop fail- ure	Culti- vated summer: fallow 2/	Crop- land used for crops
Million acres				
1947	36.7	0.5	0	37.2
1948	37.6	.2	0	37.8
1949	38.0	.2	0	38.2
1950	37.1	.4	0	37.5
1951	37.3	.4	0	37.7
1952	37.0	.4	0	37.4
1953	37.1	.5	0	37.6
1954	37.2	.4	0	37.6
1955	37.3	.3	0	37.6
1956	36.9	.5	0	37.4
1957	35.4	1.0	0	36.4
1958	35.7	.3	0	36.0
1959	36.2	.5	0	36.7
1960	35.5	.3	0	35.8
1961	34.8	.5	0	35.3
1962	32.7	.6	0	33.3
1963	34.1	.4	0	34.5
1964	33.8	.5	0	34.3
1965	33.5	.6	0	34.1
1966	32.9	.4	0	33.3
1967	34.0	.4	0	34.4
1968	33.1	.6	0	33.7
1969	31.2	.3	0	31.5
1970	31.5	.4	0	31.9
1971	33.9	.3	0	34.2
1972	31.7	.6	0	32.3
1973	34.8	.5	0	35.3
1974	36.1	.5	0	36.6
1975	36.5	.8	0	37.3
1976	37.8	.5	0	38.3
1977	38.8	.5	0	39.3
1978	37.7	.4	0	38.1
1979	38.5	.3	0	38.8
1980	39.0	.8	0	39.8
1981	39.8	.5	0	40.3
1982	39.5	.3	0	39.8
1983	33.3	.5	0	33.8
1984	38.9	.4	0	39.3
1985	38.3	.7	0	39.0
1986	36.2	.6	0	36.8
1987	31.9	.3	0	32.2
1988	31.7	1.1	0	32.8
1989 3/	33.7	.3	0	34.0

1/ Land supporting one or more harvested crops. 2/ Not estimated for farm production regions east of the Plains States.
3/ Preliminary.

Table 16--Cropland used for crops,
Corn Belt region, 1947-89

Year	Crop- land har- vested 1/	Crop fail- ure	Culti- vated summer: fallow 2/	Crop- land used for crops
Million acres				
1947	73.5	1.8	0	75.3
1948	76.9	.7	0	77.6
1949	77.2	.8	0	78.0
1950	76.4	.8	0	77.2
1951	75.5	1.9	0	77.4
1952	77.1	.7	0	77.8
1953	78.2	.6	0	78.8
1954	78.2	1.2	0	79.4
1955	78.9	.6	0	79.5
1956	76.2	2.3	0	78.5
1957	75.6	1.6	0	77.2
1958	75.2	1.7	0	76.9
1959	77.8	1.0	0	78.8
1960	77.6	.8	0	78.4
1961	70.1	1.5	0	71.6
1962	69.3	1.4	0	70.7
1963	71.6	.9	0	72.5
1964	71.6	.4	0	72.0
1965	71.7	.7	0	72.4
1966	72.2	.5	0	72.7
1967	75.0	1.2	0	76.2
1968	71.9	.7	0	72.6
1969	69.3	1.4	0	70.7
1970	70.8	.8	0	71.6
1971	74.6	.6	0	75.2
1972	71.9	.9	0	72.8
1973	78.6	.6	0	79.2
1974	80.8	1.1	0	81.9
1975	82.4	.4	0	82.8
1976	83.3	.5	0	83.8
1977	84.9	.7	0	85.6
1978	83.0	.4	0	83.4
1979	85.7	.4	0	86.1
1980	86.8	.5	0	87.3
1981	86.9	.6	0	87.5
1982	85.8	.7	0	86.5
1983	70.9	.5	0	71.4
1984	84.2	.7	0	84.9
1985	84.7	.6	0	85.3
1986	80.7	.6	0	81.3
1987	73.3	.3	0	73.6
1988	75.2	1.1	0	76.3
1989 3/	81.0	.6	0	81.6

1/ Land supporting one or more harvested crops. 2/ Not estimated for farm production regions east of the Plains States. 3/ Preliminary.

Table 17--Cropland used for crops,
Northern Plains region, 1947-89

Year	Crop- land har- vested 1/	Crop fail- ure	Culti- vated summer: fallow	Crop- land used for crops
Million acres				
1947	80.6	1.8	7.3	89.7
1948	78.8	2.5	9.3	90.6
1949	79.5	3.4	11.0	93.9
1950	78.5	3.1	11.7	93.3
1951	77.3	5.3	11.2	93.8
1952	80.5	2.1	11.2	93.8
1953	79.9	3.4	10.7	94.0
1954	80.6	3.1	11.8	95.5
1955	77.9	4.5	12.2	94.6
1956	72.3	7.9	12.6	92.8
1957	73.9	3.2	13.0	90.1
1958	75.4	1.5	13.5	90.4
1959	73.0	3.3	13.9	90.2
1960	75.1	1.6	14.8	91.5
1961	66.9	4.3	15.7	86.9
1962	66.5	2.3	16.5	85.3
1963	67.0	2.8	17.3	87.1
1964	66.4	1.6	18.2	86.2
1965	67.0	1.3	18.9	87.2
1966	66.6	1.2	19.7	87.5
1967	70.2	1.6	16.4	88.2
1968	67.4	1.6	17.2	86.2
1969	65.4	1.0	21.9	88.3
1970	65.8	1.0	20.1	86.9
1971	69.9	1.0	17.6	88.5
1972	65.1	1.1	21.0	87.2
1973	72.2	.9	16.8	89.9
1974	73.8	1.2	15.5	90.5
1975	73.8	1.2	15.7	90.7
1976	71.8	2.5	15.8	90.1
1977	74.1	1.8	15.9	91.8
1978	71.4	.8	16.2	88.4
1979	73.3	1.3	16.0	90.6
1980	72.2	4.1	15.1	91.4
1981	77.3	1.6	14.6	93.5
1982	77.6	1.1	15.0	93.7
1983	65.6	1.1	17.3	84.0
1984	76.3	1.3	15.0	92.6
1985	74.7	1.9	16.0	92.6
1986	73.6	1.6	15.9	91.1
1987	68.8	1.2	17.2	87.2
1988	65.2	4.0	16.0	85.2
1989 2/	71.0	2.4	13.9	87.3

1/ Land supporting one or more harvested crops. 2/ Preliminary.

Table 18--Cropland used for crops,
Appalachian region, 1947-89

Year	Crop- land har- vested 1/	Crop fail- ure	Culti- vated summer: fallow 2/	Crop- land used for crops
Million acres				
1947	21.9	0.2	0	22.1
1948	21.8	.1	0	21.9
1949	22.0	.3	0	22.3
1950	20.8	.3	0	21.1
1951	20.8	.4	0	21.2
1952	20.5	.3	0	20.8
1953	20.3	.3	0	20.6
1954	19.7	.3	0	20.0
1955	19.4	.5	0	19.9
1956	18.5	.4	0	18.9
1957	16.9	.6	0	17.5
1958	16.8	.4	0	17.2
1959	17.1	.3	0	17.4
1960	16.8	.3	0	17.1
1961	15.8	.3	0	16.1
1962	15.0	.4	0	15.4
1963	14.9	.3	0	15.2
1964	14.8	.2	0	15.0
1965	14.9	.2	0	15.1
1966	14.7	.3	0	15.0
1967	15.3	.4	0	15.7
1968	15.3	.2	0	15.5
1969	14.6	.2	0	14.8
1970	14.6	.3	0	14.9
1971	15.9	.3	0	16.2
1972	15.1	.5	0	15.6
1973	16.1	.3	0	16.4
1974	16.9	.2	0	17.1
1975	17.3	.2	0	17.5
1976	17.6	.2	0	17.8
1977	18.2	.3	0	18.5
1978	18.1	.2	0	18.3
1979	18.9	.1	0	19.0
1980	19.0	.1	0	19.1
1981	19.2	.2	0	19.4
1982	19.2	.1	0	19.3
1983	16.4	.2	0	16.6
1984	18.4	.2	0	18.6
1985	18.5	.2	0	18.7
1986	17.1	.3	0	17.4
1987	16.1	.3	0	16.4
1988	15.6	.2	0	15.8
1989 3/	16.6	.2	0	16.8

1/ Land supporting one or more harvested crops. 2/ Not estimated for farm production regions east of the Plains States. 3/ Preliminary.

Table 19--Cropland used for crops,
Southeast region, 1947-89

Year	Crop- land har- vested 1/	Crop fail- ure	Culti- vated summer: fallow 2/	Crop- land used for crops
Million acres				
1947	19.2	0.8	0	20.0
1948	19.1	.6	0	19.7
1949	19.5	.7	0	20.2
1950	18.0	.7	0	18.7
1951	18.0	.7	0	18.7
1952	18.1	.9	0	19.0
1953	18.1	.8	0	18.9
1954	16.5	1.1	0	17.6
1955	16.3	1.0	0	17.3
1956	15.3	.8	0	16.1
1957	14.3	.8	0	15.1
1958	13.1	.6	0	13.7
1959	13.9	.7	0	14.6
1960	12.9	.4	0	13.3
1961	12.3	.4	0	12.7
1962	11.6	.3	0	11.9
1963	11.8	.3	0	12.1
1964	11.7	.2	0	11.9
1965	11.3	.2	0	11.5
1966	10.8	.2	0	11.0
1967	11.5	.5	0	12.0
1968	11.6	.2	0	11.8
1969	11.2	.3	0	11.5
1970	11.4	.3	0	11.7
1971	12.3	.2	0	12.5
1972	12.0	.1	0	12.1
1973	12.6	.1	0	12.7
1974	13.2	.1	0	13.3
1975	13.5	.2	0	13.7
1976	13.7	.2	0	13.9
1977	12.6	2.0	0	14.6
1978	14.1	.3	0	14.4
1979	14.5	.2	0	14.7
1980	14.1	.6	0	14.7
1981	14.4	.4	0	14.8
1982	14.5	.2	0	14.7
1983	13.0	.2	0	13.2
1984	14.1	.2	0	14.3
1985	12.8	.5	0	13.3
1986	10.8	.8	0	11.6
1987	10.1	.2	0	10.3
1988	10.0	.3	0	10.3
1989 3/	10.5	.2	0	10.7

1/ Land supporting one or more harvested crops. 2/ Not estimated for farm production regions east of the Plains States. 3/ Preliminary.

Table 20--Cropland used for crops,
Delta States region, 1947-89

Year	Crop- land har- vested 1/	Crop fail- ure	Culti- vated summer: fallow : 2/	Crop- land used for crops
Million acres				
1947	15.5	0.5	0	16.0
1948	15.9	.4	0	16.3
1949	16.0	.6	0	16.6
1950	14.9	.4	0	15.3
1951	14.7	.7	0	15.4
1952	14.7	.4	0	15.1
1953	14.3	.6	0	14.9
1954	14.2	.6	0	14.8
1955	13.8	.5	0	14.3
1956	13.2	.5	0	13.7
1957	12.3	.9	0	13.2
1958	11.9	.6	0	12.5
1959	12.5	.6	0	13.1
1960	12.3	.5	0	12.8
1961	12.3	.5	0	12.8
1962	12.3	.4	0	12.7
1963	12.6	.5	0	13.1
1964	13.3	.2	0	13.5
1965	13.5	.2	0	13.7
1966	13.3	.3	0	13.6
1967	14.6	.3	0	14.9
1968	15.5	.6	0	16.1
1969	15.5	.4	0	15.9
1970	15.9	.4	0	16.3
1971	16.0	.3	0	16.3
1972	16.0	.4	0	16.4
1973	16.2	.3	0	16.5
1974	16.3	.5	0	16.8
1975	16.9	.3	0	17.2
1976	18.0	.5	0	18.5
1977	18.9	.4	0	19.3
1978	18.9	.3	0	19.2
1979	19.4	.3	0	19.7
1980	19.2	.5	0	19.7
1981	19.3	.3	0	19.6
1982	19.0	.2	0	19.2
1983	16.0	.2	0	16.2
1984	18.1	.3	0	18.4
1985	17.5	.2	0	17.7
1986	15.8	.3	0	16.1
1987	15.4	.2	0	15.6
1988	15.5	.4	0	15.9
1989 ^{3/}	14.7	.4	0	15.1

1/ Land supporting one or more harvested crops. 2/ Not estimated for farm production regions east of the Plains States.
3/ Preliminary.

Table 21--Cropland used for crops,
Southern Plains region, 1947-89

Year	Crop- land har- vested 1/	Crop fail- ure	Culti- vated summer: fallow : :	Crop- land used for crops
Million acres				
1947	41.5	1.1	0.7	43.3
1948	40.1	2.5	.8	43.4
1949	42.0	1.3	1.4	44.7
1950	34.9	4.0	2.8	41.7
1951	35.7	5.6	2.1	43.4
1952	36.0	4.2	1.6	41.8
1953	34.6	4.6	2.1	41.3
1954	36.1	3.3	2.1	41.5
1955	33.0	6.2	2.2	41.4
1956	30.2	6.4	2.3	38.9
1957	32.0	2.9	2.4	37.3
1958	32.4	1.9	2.5	36.8
1959	32.1	2.9	2.6	37.6
1960	32.6	1.7	2.9	37.2
1961	30.9	1.8	3.1	35.8
1962	28.3	2.7	3.4	34.4
1963	27.7	3.4	3.7	34.8
1964	28.6	1.6	3.9	34.1
1965	29.2	.8	4.0	34.0
1966	27.0	.9	4.1	32.0
1967	28.2	.8	2.6	31.6
1968	29.9	.6	2.0	32.5
1969	28.7	1.0	4.2	33.9
1970	27.7	1.2	2.8	31.7
1971	25.9	2.3	2.5	30.7
1972	25.7	2.0	2.1	29.8
1973	31.5	1.1	1.9	34.5
1974	29.9	3.4	1.8	35.1
1975	33.3	1.6	2.0	36.9
1976	31.5	2.6	2.1	36.2
1977	34.3	1.9	2.2	38.4
1978	30.5	3.0	2.3	35.8
1979	32.7	2.0	2.3	37.0
1980	32.6	2.6	2.2	37.4
1981	34.3	1.2	2.5	38.0
1982	32.8	1.7	2.4	36.9
1983	25.1	1.4	2.2	28.7
1984	28.9	2.2	1.6	32.7
1985	30.2	2.0	1.9	34.1
1986	26.5	3.5	2.1	32.1
1987	24.8	2.2	2.1	29.1
1988	24.5	1.9	1.8	28.2
1989 ^{2/}	26.1	2.5	1.4	30.0

1/ Land supporting one or more harvested crops. 2/ Preliminary.

Table 22--Cropland used for crops,
Mountain region, 1947-89

Year	Crop- land har- vested 1/	Crop fail- ure	Culti- vated summer: fallow	Crop- land used for crops
Million acres				
1947	23.7	0.9	6.1	30.7
1948	24.1	1.0	6.8	31.9
1949	24.9	1.2	8.6	34.7
1950	23.6	1.6	10.0	35.2
1951	24.1	1.9	9.9	35.9
1952	24.9	1.5	10.2	36.6
1953	25.5	1.8	8.5	35.8
1954	23.5	2.5	10.2	36.2
1955	23.7	2.4	10.1	36.2
1956	22.6	3.0	10.1	35.7
1957	24.3	.9	10.0	35.2
1958	24.5	.8	10.0	35.3
1959	23.8	.7	9.9	34.4
1960	23.5	.6	10.0	34.1
1961	22.5	1.2	10.1	33.8
1962	22.5	1.2	10.2	33.9
1963	22.2	1.4	10.4	34.0
1964	22.1	1.3	10.5	33.9
1965	22.5	1.4	10.6	34.5
1966	22.4	.8	10.6	33.8
1967	23.2	1.2	9.7	34.1
1968	23.0	1.0	10.1	34.1
1969	23.4	.7	10.8	34.9
1970	23.6	.8	10.2	34.6
1971	24.1	.9	9.4	34.4
1972	23.4	1.0	10.6	35.0
1973	25.1	.7	9.1	34.9
1974	25.2	.9	9.8	35.9
1975	25.6	1.5	9.8	36.9
1976	25.8	1.0	9.8	36.6
1977	25.7	1.0	9.8	36.5
1978	25.9	.9	9.8	36.6
1979	26.0	1.0	10.2	37.2
1980	26.7	1.0	9.9	37.6
1981	27.8	.6	9.7	38.1
1982	26.9	.7	9.8	37.4
1983	25.1	.7	10.5	36.3
1984	27.0	1.0	10.5	38.5
1985	25.2	1.9	10.3	37.4
1986	26.3	.8	10.6	37.7
1987	24.9	.8	9.7	35.4
1988	22.6	1.3	9.5	33.4
1989 <u>2/</u>	25.2	.9	8.8	34.9

1/ Land supporting one or more
harvested crops. 2/ Preliminary.

Table 23--Cropland used for crops,
Pacific region, 1947-89

Year	Crop- land har- vested 1/	Crop fail- ure	Culti- vated summer: fallow	Crop- land used for crops
Million acres				
1947	15.5	0.2	4.5	20.2
1948	15.6	.4	4.6	20.6
1949	15.7	.4	4.7	20.8
1950	15.4	.2	4.6	20.2
1951	15.6	.3	4.7	20.6
1952	16.0	.2	4.6	20.8
1953	16.2	.2	4.4	20.8
1954	16.0	.1	4.6	20.7
1955	15.8	.2	4.5	20.5
1956	15.9	.4	4.5	20.8
1957	16.0	.1	4.4	20.5
1958	15.9	.2	4.4	20.5
1959	15.8	.3	4.4	20.5
1960	15.7	.2	4.3	20.2
1961	15.6	.2	4.3	20.1
1962	14.8	.3	4.3	19.4
1963	15.3	.2	4.3	19.8
1964	15.4	.2	4.3	19.9
1965	15.2	.2	4.3	19.7
1966	15.0	.2	4.2	19.4
1967	15.7	.2	3.8	19.7
1968	15.4	.2	4.1	19.7
1969	14.7	.2	4.2	19.1
1970	15.1	.1	4.3	19.5
1971	15.4	.1	4.0	19.5
1972	15.4	.1	4.5	20.0
1973	16.2	.2	3.6	20.0
1974	17.3	.1	3.6	21.0
1975	17.6	.1	3.6	21.3
1976	17.7	.2	3.6	21.5
1977	17.1	.2	3.6	20.9
1978	17.3	.2	3.6	21.1
1979	17.4	.3	3.6	21.3
1980	18.4	.2	3.2	21.8
1981	18.7	.2	3.3	22.2
1982	17.9	.2	3.4	21.5
1983	16.4	.1	3.6	20.1
1984	17.5	.2	3.2	20.9
1985	17.5	.2	3.0	20.7
1986	16.6	.2	3.1	19.9
1987	15.7	.4	3.0	19.1
1988	15.7	.1	2.4	18.2
1989 <u>2/</u>	15.9	.3	2.5	18.7

1/ Land supporting one or more
harvested crops. 2/ Preliminary.

Table 24--Land: Indexes of cropland used for crops, by region, 1947-89
(1977=100)

Year	: North- : east	: Lake : States	: Corn : Belt	: Northern : Plains	: Appa- : lachia	: South- : east	: Delta : States	: Southern : Plains	: Mountain	: Pacific	: United : States
1947	: 137	94	88	98	120	137	83	113	84	97	99
1948	: 135	96	91	99	119	135	85	113	87	99	100
1949	: 130	97	91	102	121	138	86	116	95	99	102
1950	: 129	95	90	102	114	128	79	109	96	97	100
1951	: 128	96	90	102	115	128	80	113	98	98	102
1952	: 128	95	91	102	113	130	79	109	100	99	100
1953	: 127	95	92	102	112	129	77	108	98	99	100
1954	: 126	96	93	104	108	120	77	108	99	99	100
1955	: 124	96	93	103	108	118	74	108	99	98	100
1956	: 121	95	92	101	102	111	71	101	98	99	98
1957	: 119	92	90	98	95	103	68	97	97	98	95
1958	: 117	91	90	98	93	94	65	96	96	98	94
1959	: 115	93	92	98	94	100	68	98	94	98	95
1960	: 112	91	92	100	92	91	66	97	93	97	94
1961	: 109	90	84	95	87	87	66	93	92	96	90
1962	: 107	85	83	93	83	82	66	89	93	93	88
1963	: 107	88	85	95	82	83	68	91	93	95	89
1964	: 106	87	84	94	81	81	70	89	93	95	89
1965	: 103	87	85	95	82	79	71	89	94	94	89
1966	: 103	85	85	95	81	75	71	83	93	93	88
1967	: 101	87	89	96	85	82	77	82	93	94	90
1968	: 96	86	85	94	84	81	83	85	93	94	89
1969	: 92	80	83	96	80	79	83	88	95	91	88
1970	: 95	81	84	95	81	80	85	82	95	93	88
1971	: 96	87	88	96	88	85	85	80	94	93	90
1972	: 93	82	85	95	85	83	85	78	96	96	88
1973	: 95	90	93	98	89	87	86	90	96	95	93
1974	: 98	93	96	98	92	91	87	91	98	100	96
1975	: 98	95	97	99	95	94	89	96	101	102	97
1976	: 99	97	98	98	96	95	96	94	100	103	98
1977	: 100	100	100	100	100	100	100	100	100	100	100
1978	: 99	97	97	96	101	99	100	93	100	101	97
1979	: 101	99	101	99	103	101	102	96	102	102	100
1980	: 102	101	102	99	104	101	102	98	103	104	101
1981	: 103	102	102	102	105	101	102	99	104	106	102
1982	: 103	101	101	102	105	100	100	96	102	103	101
1983	: 97	86	83	92	90	90	84	75	99	96	88
1984	: 101	100	99	101	101	98	95	85	105	100	99
1985	: 101	99	100	101	101	91	92	89	102	99	98
1986	: 97	94	95	99	94	79	84	83	103	95	94
1987	: 89	82	87	95	89	71	81	76	97	90	88
1988	: 85	83	89	93	85	71	83	73	92	87	87
1989 ^{1/}	: 88	87	95	95	91	73	78	78	95	89	90

^{1/} Preliminary.

Note: Computed from unrounded data.

Table 25--Crop production: Indexes of crop production per acre, by region, 1947-89
(1977=100)

Year	North- east	Lake States	Corn Belt	Northern Plains	Appa- lachia	South- east	Delta States	Southern Plains	Mountain	Pacific	United States
1947	73	47	40	51	81	61	78	57	70	55	57
1948	78	53	57	55	86	66	104	50	71	55	64
1949	78	52	53	41	79	59	83	68	63	55	60
1950	81	51	51	49	82	62	82	49	64	58	59
1951	80	53	49	44	87	72	86	48	63	61	59
1952	77	56	55	50	84	64	90	50	67	63	62
1953	80	56	52	44	82	71	100	53	73	63	62
1954	80	56	53	44	85	63	90	54	64	64	61
1955	78	57	56	41	89	81	112	55	68	64	63
1956	84	62	59	41	97	79	103	51	67	67	64
1957	78	62	58	54	83	72	87	61	76	67	65
1958	90	65	64	69	95	81	89	76	82	67	73
1959	87	66	65	54	95	80	112	72	80	72	72
1960	93	67	67	69	100	91	109	78	81	70	77
1961	97	71	73	59	107	99	115	82	79	70	78
1962	90	71	75	70	116	107	115	75	82	75	81
1963	91	73	80	64	121	110	128	75	84	75	83
1964	92	69	75	63	121	106	129	78	81	79	81
1965	98	70	84	69	112	118	124	91	85	78	85
1966	90	78	84	71	106	105	108	81	83	81	83
1967	106	77	87	72	108	116	100	80	88	76	86
1968	102	83	89	79	101	101	110	93	91	84	89
1969	109	86	93	84	114	113	101	80	92	87	91
1970	108	85	82	75	111	111	106	87	92	84	88
1971	107	89	100	94	106	121	108	78	95	87	96
1972	92	91	102	94	112	120	113	97	93	88	99
1973	102	90	95	97	110	122	109	107	96	94	99
1974	106	78	77	77	108	125	100	77	98	97	88
1975	103	83	97	87	111	121	99	84	97	97	96
1976	102	70	94	81	113	121	93	89	103	98	94
1977	100	100	100	100	100	100	100	100	100	100	100
1978	109	102	108	110	109	114	100	88	109	95	105
1979	109	105	116	119	102	120	112	109	107	107	113
1980	104	100	102	92	95	102	81	79	111	113	100
1981	112	106	114	116	118	130	110	106	117	112	115
1982	114	114	117	120	120	133	118	91	116	115	116
1983	104	101	88	102	88	122	98	97	110	114	100
1984	116	110	105	118	116	129	118	100	107	121	112
1985	120	114	124	129	111	135	114	105	104	124	120
1986	113	114	124	131	96	122	106	93	112	122	116
1987	115	122	123	127	97	143	120	114	125	147	123
1988	101	80	85	100	106	154	133	119	114	149	106
1989 ^{1/}	114	117	115	108	111	148	125	101	123	149	119

^{1/} Preliminary.

Table 26--Farm production: Indexes of animal units of breeding livestock and livestock production per breeding unit, United States, 1947-89

Year	Animal breeding units	Livestock production per unit
	<u>1977=100</u>	
1947	108	60
1948	102	63
1949	103	65
1950	106	66
1951	107	68
1952	107	69
1953	105	70
1954	109	71
1955	110	72
1956	108	73
1957	107	73
1958	102	77
1959	102	81
1960	104	79
1961	102	84
1962	103	83
1963	105	85
1964	105	87
1965	102	87
1966	100	91
1967	101	93
1968	101	93
1969	99	96
1970	100	99
1971	102	98
1972	101	100
1973	102	97
1974	104	96
1975	103	92
1976	101	98
1977	100	100
1978	99	102
1979	100	104
1980	101	107
1981	101	108
1982	99	108
1983	97	112
1984	95	113
1985	92	120
1986	91	121
1987	89	127
1988	89	129
1989 ^{1/}	89	131

^{1/} Preliminary.

Table 27--Fertilizer: Primary plant nutrients and liming materials used, United States and Puerto Rico, 1947-89

Year ^{1/}	Primary plant nutrient 2/								Liming materials 3/	
	Quantity				Index (1977=100)				Quantity	Index (1977=100)
	Nitrogen	Phos- phate 4/	Potash 5/	Total 6/	Nitrogen	Phos- phate	Potash	Total		
	-----1,000 tons-----								1,000 tons	
1947	836	1,775	879	3,490	8	32	15	16	30,283	97
1948	841	1,843	956	3,640	8	33	16	17	25,686	82
1949	912	1,884	1,064	3,860	9	34	18	18	27,902	89
1950	1,005	1,950	1,103	4,058	9	35	19	18	29,842	95
1951	1,238	2,110	1,380	4,728	12	38	24	21	27,583	88
1952	1,425	2,199	1,581	5,205	13	39	27	24	27,252	87
1953	1,637	2,271	1,738	5,646	15	40	30	26	20,669	66
1954	1,847	2,235	1,814	5,896	17	40	31	27	18,975	61
1955	1,960	2,284	1,865	6,109	18	41	32	28	20,659	66
1956	1,933	2,247	1,875	6,055	18	40	32	27	22,021	70
1957	2,135	2,305	1,937	6,377	20	41	33	29	22,476	72
1958	2,284	2,293	1,935	6,512	21	41	33	30	23,215	74
1959	2,672	2,551	2,191	7,414	25	45	38	34	22,726	72
1960	2,738	2,572	2,153	7,463	26	46	37	34	22,614	72
1961	3,031	2,645	2,168	7,844	28	47	37	36	22,612	72
1962	3,370	2,807	2,271	8,448	32	50	39	38	23,616	75
1963	3,929	3,073	2,503	9,505	37	55	43	43	26,119	83
1964	4,353	3,377	2,730	10,460	41	60	47	47	27,002	86
1965	4,639	3,513	2,835	10,987	44	62	49	50	28,075	90
1966	5,326	3,898	3,221	12,445	50	69	55	56	30,461	97
1967	6,027	4,305	3,642	13,974	57	76	62	63	29,202	93
1968	6,788	4,454	3,793	15,035	64	79	65	68	30,536	97
1969	6,958	4,665	3,892	15,515	65	83	67	70	28,380	90
1970	7,459	4,574	4,035	16,068	70	81	69	73	25,901	83
1971	8,134	4,803	4,231	17,168	76	85	73	78	23,703	76
1972	8,022	4,865	4,325	17,212	75	86	74	78	25,122	80
1973	8,295	5,085	4,649	18,029	78	90	80	82	23,657	75
1974	9,157	5,099	5,083	19,338	86	91	87	88	27,807	89
1975	8,608	4,511	4,453	17,572	81	80	76	80	31,128	99
1976	10,412	5,228	5,210	20,849	98	93	89	94	38,147	122
1977	10,647	5,630	5,834	22,111	100	100	100	100	31,381	100
1978	9,965	5,096	5,526	20,587	94	91	95	93	30,697	98
1979	10,715	5,606	6,244	22,565	101	100	107	102	30,979	99
1980	11,407	5,432	6,245	23,083	107	97	107	104	34,402	110
1981	11,924	5,434	6,320	23,678	112	97	108	107	29,647	95
1982	10,984	4,814	5,631	21,429	103	86	97	97	23,237	74
1983	9,127	4,138	4,831	18,096	86	74	83	82	25,383	81
1984	11,092	4,901	5,797	21,790	104	87	99	99	26,592	85
1985	11,493	4,658	5,552	21,703	108	83	95	98	N/A	N/A
1986	10,424	4,178	5,053	19,655	98	74	87	89	N/A	N/A
1987	10,209	4,008	4,837	19,054	96	71	83	86	N/A	N/A
1988	10,512	4,129	4,973	19,613	99	73	85	89	N/A	N/A
1989 ^{7/}	10,633	4,124	4,833	19,590	100	73	83	89	N/A	N/A

N/A=not available.

^{1/} Calendar year for 1947-49. Fertilizer year ending June 30 for 1950-89. ^{2/} Includes 50 States and Puerto Rico.^{3/} Includes 48 States only. ^{4/} To convert P₂O₅ to P, multiply P₂O₅ by 0.43642. ^{5/} To convert K₂O to K, multiply K₂O by 0.83016. ^{6/} Includes material for nonfarm use. ^{7/} Preliminary.

Sources: Primary plant nutrients: Agricultural Research Service, 1947-49; National Agricultural Statistics Service and its predecessor agencies, 1950-85, Tennessee Valley Authority, 1986-89. Liming materials: National Stone Association.

Table 31--Farm machinery and equipment: Number of specified kinds on farms, and tractor horsepower, United States, census years 1/

Year	: Tractors (exclusive of steam and garden)				: Motor	: Grain	:Corn-	:Pickup	: Field
	: Total1 2/	: Wheel	: Crawler	:Horsepower	: trucks	:combines3/	:head 4/	:baler 5/	: forage
									: harvesters 6/
	-----Thousands-----		Millions		-----Thousands-----				
1950	3,394	3,250	144	93	2,207	714	456	196	81
1954	4,345	4,185	160	126	2,702	979	688	448	202
1959	4,688	4,489	199	153	2,834	1,042	792	680	291
1964	4,786	4,601	186	176	3,030	910	690	751	316
1969	4,622	4,419	203	203	2,985	790	635	708	304
1974	4,467	4,312	155	222	3,038	524	615	666	255
1978	N/A	<u>7/</u> 4,626	<u>8/</u>	301	3,358	655	694	744	295
1982	N/A	4,524	<u>8/</u>	309	3,435	644	684	800	285
1987	N/A	4,609	<u>8/</u>	<u>9/</u>	3,437	667	<u>9/</u>	823	<u>9/</u>
N/A = not available.									

N/A = not available.

1/ Data as of December 31. Data are from Census of Agriculture. Interpolations between census years have been discontinued. 2/ Includes wheel and crawler-type tractors. 3/ Data for 1974 and after are for self-propelled combines only. 4/ Includes corn pickers and picker shellers. 5/ Does not include balers producing bales weighing more than 200 pounds. 6/ Data for 1978 and after do not include flail-type forage harvesters. 7/ U.S. totals for 1978 are not directly comparable with totals for 1974 or earlier census years, because they include State-level data from farm operators represented on the census mailing list, plus estimates from the direct enumeration sample for farms not represented on the mailing list. As a result, figures for nearly all categories are somewhat higher than they would be using the earlier base. 8/ Discontinued after 1974. 9/ Discontinued after 1982.

Table 32--Labor: Total hours of farmwork, United States and regions, 1947-89 1/

Year	: North- : east :	: Lake : States :	: Corn : Belt :	: North- : ern : Plains :	: Appa- : lachia :	: South- : east :	: Delta : States :	: South- : ern : Plains :	: Moun- : tain :	: Pacific :	: United : States :
	Million hours										
1947	: 1,793	2,201	3,546	1,686	3,206	2,454	2,036	2,226	1,105	1,547	21,800
1948	: 1,680	2,045	3,486	1,597	3,064	2,367	2,237	2,024	1,052	1,450	21,000
1949	: 1,685	2,079	3,474	1,500	3,154	2,275	2,091	2,110	1,060	1,471	20,900
1950	: 1,629	1,955	3,249	1,462	2,955	2,052	1,781	1,825	998	1,394	19,300
1951	: 1,465	1,799	3,006	1,372	2,848	2,032	1,713	1,794	926	1,346	18,300
1952	: 1,387	1,730	2,890	1,304	2,702	1,863	1,642	1,620	880	1,282	17,300
1953	: 1,312	1,631	2,699	1,230	2,436	1,712	1,576	1,523	815	1,167	16,100
1954	: 1,288	1,623	2,691	1,248	2,403	1,573	1,355	1,436	845	1,138	15,600
1955	: 1,305	1,665	2,741	1,253	2,374	1,652	1,394	1,483	850	1,183	15,900
1956	: 1,270	1,629	2,642	1,170	2,282	1,522	1,276	1,377	825	1,206	15,200
1957	: 1,174	1,535	2,481	1,145	1,968	1,297	1,080	1,261	797	1,163	13,900
1958	: 1,095	1,411	2,293	1,051	1,839	1,180	960	1,211	748	1,112	12,900
1959	: 1,059	1,403	2,303	997	1,883	1,247	1,029	1,209	727	1,143	13,000
1960	: 1,025	1,343	2,184	984	1,813	1,214	971	1,150	706	1,112	12,500
1961	: 970	1,279	2,010	905	1,737	1,146	933	1,087	669	1,063	11,800
1962	: 934	1,242	1,939	918	1,734	1,155	848	1,007	665	1,058	11,500
1963	: 863	1,164	1,824	868	1,658	1,107	842	933	634	1,006	10,900
1964	: 826	1,127	1,732	835	1,552	1,028	797	887	617	998	10,400
1965	: 830	1,116	1,703	852	1,403	1,017	728	874	581	997	10,100
1966	: 752	1,013	1,574	802	1,265	921	627	745	534	967	9,200
1967	: 711	967	1,542	798	1,192	925	592	743	521	909	8,900
1968	: 671	926	1,458	783	1,115	862	585	743	521	936	8,600
1969	: 624	859	1,353	732	1,062	856	561	736	517	900	8,200
1970	: 597	804	1,277	729	983	816	530	717	488	859	7,800
1971	: 563	781	1,230	725	908	789	511	679	469	844	7,500
1972	: 543	779	1,224	736	910	804	534	719	478	873	7,600
1973	: 529	748	1,184	746	895	801	491	716	472	919	7,500
1974	: 529	743	1,166	765	914	798	481	697	461	947	7,500
1975	: 510	710	1,126	733	939	784	441	668	458	932	7,300
1976	: 474	661	1,056	700	886	753	428	617	436	889	6,900
1977	: 467	664	1,046	697	861	749	432	637	433	913	6,900
1978	: 473	667	1,043	697	884	754	421	611	447	903	6,900
1979	: 457	642	1,030	692	826	735	414	627	437	942	6,800
1980	: 436	611	984	668	831	753	396	571	421	930	6,600
1981	: 418	582	968	678	853	734	408	599	431	929	6,600
1982	: 412	574	953	656	819	674	387	556	417	952	6,400
1983	: 435	576	993	668	847	726	407	577	449	1,022	6,700
1984	: 667	935	1,139	664	640	351	314	635	441	579	6,365
1985	: 636	876	1,008	562	597	334	263	556	433	607	5,872
1986	: 592	761	1,065	537	520	349	233	465	355	644	5,521
1987	: 501	775	1,011	508	531	364	248	430	417	574	5,359
1988	: 508	705	885	496	556	363	235	550	351	569	5,218
1989	: 514	724	891	514	527	379	229	445	372	686	5,281

1/ Includes overhead labor hours.

Table 33--Labor: Indexes of total hours of farmwork, United States and regions, 1947-89
(1977=100)

Year	: North- : east :	: Lake : States :	: Corn : Belt :	: North- : ern : Plains :	: Appa- : lachia :	: South- : east :	: Delta : States :	: South- : ern : Plains :	: Moun- : tain :	: Pacific :	: United : States :
1947	: 383	: 331	: 339	: 242	: 372	: 328	: 472	: 350	: 255	: 169	: 316
1948	: 359	: 308	: 333	: 229	: 356	: 316	: 518	: 318	: 243	: 159	: 304
1949	: 360	: 313	: 332	: 215	: 366	: 304	: 484	: 331	: 245	: 161	: 303
1950	: 349	: 294	: 310	: 210	: 343	: 274	: 413	: 287	: 230	: 153	: 280
1951	: 313	: 271	: 287	: 197	: 331	: 271	: 397	: 282	: 214	: 148	: 265
1952	: 297	: 260	: 276	: 187	: 314	: 249	: 380	: 254	: 203	: 140	: 251
1953	: 281	: 245	: 258	: 177	: 283	: 229	: 365	: 239	: 188	: 128	: 233
1954	: 276	: 244	: 257	: 179	: 279	: 210	: 314	: 225	: 195	: 125	: 226
1955	: 279	: 251	: 262	: 180	: 276	: 221	: 323	: 233	: 196	: 130	: 230
1956	: 272	: 245	: 253	: 168	: 265	: 203	: 296	: 216	: 190	: 132	: 220
1957	: 251	: 231	: 237	: 164	: 229	: 173	: 250	: 198	: 184	: 127	: 201
1958	: 234	: 212	: 219	: 151	: 214	: 158	: 222	: 190	: 173	: 122	: 187
1959	: 226	: 211	: 220	: 143	: 219	: 167	: 238	: 190	: 168	: 125	: 188
1960	: 219	: 202	: 209	: 141	: 211	: 162	: 225	: 181	: 163	: 122	: 181
1961	: 208	: 193	: 192	: 130	: 202	: 153	: 216	: 171	: 154	: 116	: 171
1962	: 200	: 187	: 185	: 132	: 201	: 154	: 196	: 158	: 153	: 116	: 167
1963	: 185	: 175	: 174	: 125	: 193	: 148	: 195	: 147	: 146	: 110	: 158
1964	: 177	: 170	: 166	: 120	: 180	: 137	: 185	: 139	: 142	: 109	: 151
1965	: 178	: 168	: 163	: 122	: 163	: 136	: 169	: 137	: 134	: 109	: 146
1966	: 161	: 153	: 150	: 115	: 147	: 123	: 145	: 117	: 123	: 106	: 133
1967	: 152	: 146	: 147	: 115	: 138	: 123	: 137	: 117	: 120	: 100	: 129
1968	: 143	: 139	: 139	: 112	: 129	: 115	: 135	: 117	: 120	: 103	: 125
1969	: 134	: 129	: 129	: 105	: 123	: 114	: 130	: 116	: 119	: 99	: 119
1970	: 128	: 121	: 122	: 105	: 114	: 109	: 123	: 113	: 113	: 94	: 113
1971	: 120	: 118	: 118	: 104	: 105	: 105	: 118	: 107	: 108	: 92	: 109
1972	: 116	: 117	: 117	: 106	: 106	: 107	: 124	: 113	: 110	: 96	: 110
1973	: 113	: 113	: 113	: 107	: 104	: 107	: 114	: 112	: 109	: 101	: 109
1974	: 113	: 112	: 111	: 110	: 106	: 107	: 111	: 109	: 106	: 104	: 109
1975	: 109	: 107	: 108	: 105	: 109	: 105	: 102	: 105	: 106	: 102	: 106
1976	: 101	: 100	: 101	: 100	: 103	: 101	: 99	: 97	: 101	: 97	: 100
1977	: 100	: 100	: 100	: 100	: 100	: 100	: 100	: 100	: 100	: 100	: 100
1978	: 101	: 100	: 100	: 100	: 103	: 101	: 98	: 96	: 103	: 99	: 100
1979	: 98	: 97	: 98	: 99	: 96	: 98	: 96	: 99	: 101	: 103	: 99
1980	: 93	: 92	: 94	: 96	: 96	: 101	: 92	: 90	: 97	: 102	: 96
1981	: 89	: 88	: 92	: 97	: 99	: 98	: 95	: 94	: 100	: 102	: 96
1982	: 88	: 86	: 91	: 94	: 95	: 90	: 90	: 87	: 96	: 104	: 93
1983	: 93	: 87	: 95	: 96	: 98	: 97	: 94	: 91	: 104	: 112	: 97
1984	: 143	: 141	: 109	: 95	: 74	: 47	: 73	: 100	: 102	: 63	: 92
1985	: 136	: 132	: 96	: 81	: 69	: 45	: 61	: 87	: 100	: 66	: 85
1986	: 127	: 115	: 102	: 77	: 60	: 47	: 54	: 73	: 82	: 71	: 80
1987	: 107	: 117	: 97	: 73	: 62	: 49	: 57	: 68	: 96	: 63	: 78
1988	: 109	: 106	: 85	: 71	: 65	: 48	: 56	: 86	: 81	: 62	: 76
1989	: 110	: 109	: 85	: 74	: 61	: 51	: 53	: 70	: 86	: 75	: 77

Table 34--Labor: Indexes of farm production per hour, United States and regions, 1947-89
(1977=100)

Year	: North- : east :	: Lake : States :	: Corn : Belt :	: North- : ern : Plains :	: Appa- : lachia :	: South- : east :	: Delta : States :	: South- : ern : Plains :	: Moun- : tain :	: Pacific :	: United : States :
1947	: 22	: 17	: 14	: 23	: 22	: 18	: 11	: 17	: 24	: 31	: 18
1948	: 25	: 19	: 19	: 26	: 24	: 20	: 13	: 17	: 26	: 33	: 21
1949	: 25	: 19	: 18	: 23	: 22	: 19	: 12	: 21	: 25	: 34	: 20
1950	: 27	: 20	: 19	: 27	: 23	: 22	: 13	: 19	: 27	: 36	: 22
1951	: 30	: 23	: 21	: 27	: 26	: 25	: 14	: 20	: 30	: 40	: 24
1952	: 32	: 25	: 23	: 32	: 27	: 26	: 16	: 23	: 34	: 43	: 26
1953	: 35	: 26	: 24	: 31	: 29	: 31	: 18	: 25	: 39	: 49	: 28
1954	: 36	: 27	: 25	: 31	: 30	: 30	: 20	: 27	: 35	: 51	: 29
1955	: 35	: 27	: 26	: 29	: 32	: 34	: 22	: 26	: 36	: 49	: 30
1956	: 37	: 29	: 27	: 31	: 34	: 36	: 22	: 26	: 37	: 50	: 31
1957	: 38	: 30	: 28	: 36	: 34	: 38	: 22	: 30	: 40	: 52	: 33
1958	: 44	: 34	: 32	: 47	: 39	: 43	: 25	: 36	: 46	: 55	: 39
1959	: 44	: 35	: 34	: 43	: 39	: 44	: 29	: 36	: 46	: 57	: 39
1960	: 47	: 37	: 36	: 51	: 41	: 46	: 29	: 41	: 48	: 57	: 42
1961	: 50	: 40	: 39	: 50	: 44	: 51	: 33	: 44	: 51	: 60	: 44
1962	: 49	: 40	: 40	: 55	: 46	: 52	: 37	: 45	: 52	: 63	: 46
1963	: 54	: 45	: 46	: 57	: 49	: 56	: 41	: 49	: 57	: 67	: 51
1964	: 57	: 45	: 47	: 60	: 52	: 59	: 46	: 52	: 57	: 70	: 52
1965	: 58	: 45	: 50	: 61	: 55	: 64	: 50	: 59	: 64	: 70	: 56
1966	: 59	: 50	: 54	: 67	: 58	: 63	: 53	: 62	: 68	: 73	: 59
1967	: 68	: 54	: 59	: 70	: 66	: 74	: 57	: 62	: 74	: 75	: 64
1968	: 68	: 57	: 62	: 74	: 68	: 73	: 66	: 69	: 77	: 79	: 68
1969	: 75	: 60	: 65	: 83	: 75	: 78	: 65	: 65	: 79	: 82	: 72
1970	: 80	: 65	: 66	: 78	: 81	: 83	: 72	: 69	: 84	: 86	: 74
1971	: 86	: 73	: 80	: 93	: 90	: 96	: 79	: 67	: 91	: 91	: 85
1972	: 80	: 71	: 79	: 92	: 91	: 92	: 78	: 74	: 89	: 90	: 83
1973	: 84	: 75	: 80	: 93	: 93	: 94	: 81	: 84	: 90	: 88	: 86
1974	: 88	: 72	: 72	: 78	: 92	: 99	: 79	: 72	: 92	: 92	: 81
1975	: 92	: 79	: 88	: 87	: 94	: 103	: 87	: 84	: 98	: 98	: 90
1976	: 102	: 79	: 96	: 88	: 104	: 111	: 94	: 93	: 107	: 106	: 97
1977	: 100	: 100	: 100	: 100	: 100	: 100	: 100	: 100	: 100	: 100	: 100
1978	: 109	: 102	: 105	: 104	: 106	: 110	: 104	: 92	: 109	: 99	: 104
1979	: 112	: 109	: 117	: 117	: 111	: 122	: 116	: 105	: 105	: 106	: 113
1980	: 116	: 115	: 112	: 102	: 106	: 106	: 95	: 95	: 117	: 115	: 109
1981	: 133	: 128	: 124	: 124	: 124	: 130	: 118	: 119	: 128	: 121	: 123
1982	: 134	: 133	: 123	: 129	: 127	: 139	: 127	: 112	: 126	: 116	: 125
1983	: 118	: 112	: 84	: 105	: 93	: 112	: 94	: 95	: 110	: 101	: 99
1984	: 83	: 80	: 95	: 125	: 159	: 258	: 154	: 92	: 113	: 197	: 121
1985	: 87	: 87	: 127	: 160	: 166	: 274	: 176	: 111	: 109	: 185	: 139
1986	: 88	: 96	: 114	: 166	: 166	: 221	: 178	: 118	: 140	: 166	: 139
1987	: 101	: 92	: 112	: 167	: 162	: 220	: 179	: 136	: 124	: 196	: 142
1988	: 93	: 81	: 102	: 145	: 166	: 243	: 204	: 108	: 141	: 211	: 134
1989	: 99	: 100	: 132	: 152	: 186	: 232	: 203	: 131	: 141	: 181	: 148

Table 35--Persons supplied farm products by one farmworker, United States, 1947-89

Year	Persons supplied per farmworker <u>1/</u>			Total farm employment <u>2/</u>	Total U.S. population, July 1 <u>3/</u>
	Total	At home	Abroad		
	-----Number-----			-----Million-----	
1947	14.1	12.6	1.5	10.4	144.1
1948	14.5	12.8	1.7	10.4	146.6
1949	14.9	13.4	1.5	10.0	149.2
1950	15.5	13.8	1.7	9.9	151.7
1951	15.8	14.0	1.8	9.5	154.3
1952	16.4	15.0	1.4	9.1	157.0
1953	17.2	15.8	1.4	8.9	159.6
1954	18.1	16.2	1.9	8.7	162.4
1955	19.5	17.3	2.2	8.4	165.3
1956	21.7	18.5	3.2	7.9	168.2
1957	22.7	19.8	2.9	7.6	171.3
1958	23.2	20.6	2.6	7.5	174.1
1959	24.5	21.4	3.1	7.3	177.9
1960	25.8	22.3	3.5	7.1	180.8
1961	27.6	23.6	4.0	6.9	183.7
1962	28.6	24.7	3.9	6.7	186.6
1963	30.7	25.8	4.9	6.5	189.3
1964	33.2	27.9	5.3	6.1	191.9
1965	37.0	30.8	6.2	5.6	194.4
1966	39.6	33.6	6.0	5.2	196.6
1967	42.1	36.0	6.1	4.9	198.8
1968	43.4	37.9	5.5	4.7	200.7
1969	45.1	39.0	6.1	4.6	202.7
1970	47.7	40.3	7.4	4.5	205.1
1971	49.1	41.6	7.6	4.4	207.7
1972	56.2	42.6	13.6	4.4	209.9
1973	58.0	43.8	14.2	4.3	211.9
1974	55.7	42.8	13.0	4.4	213.9
1975	58.4	43.6	14.7	4.3	216.0
1976	57.9	43.6	14.4	4.4	218.0
1977	61.9	44.5	17.3	4.2	220.2
1978	66.9	48.1	18.8	4.0	222.6
1979	73.0	50.7	22.2	3.8	225.1
1980	75.7	52.2	23.5	3.7	227.8
1981	76.5	55.6	20.9	3.6	230.1
1982	79.0	59.9	19.1	3.4	232.5
1983	85.8	62.1	23.7	3.2	234.8
1984	83.8	65.6	18.2	3.1	237.0
1985	85.2	69.8	15.5	2.9	239.3
1986	92.6	73.7	18.9	2.7	241.6
1987	99.7	74.5	25.2	2.7	243.9
1988 ^{4/}	97.6	74.8	22.8	2.8	246.1
1989 ^{5/}	98.0	73.7	24.3	2.9	248.7

1/ Includes the farmworker. Thus, in 1947, the average farmworker supplied himself and 13.1 other persons. 2/ Includes farm operators, unpaid family workers, and hired workers. 3/ Includes military forces in the United States and abroad. 4/ Revised estimates, based on more accurate information. 5/ Preliminary.

Table 36--Indexes of total farm input and major input subgroups, United States, 1947-89
(1977=100)

Year	Total input			Farm labor	Farm real estate	Mechanical power and machinery	Agricultural chemicals	Feed, seed, & livestock purchases	Taxes and interest	Miscellaneous
	All	Non-purchased	Purchased							
	1/	2/	3/	4/	5/	6/	7/	8/	9/	
1947	104	174	59	297	106	54	15	51	82	60
1948	104	170	61	285	107	62	16	52	80	63
1949	108	172	65	285	108	68	18	56	83	66
1950	106	167	64	265	109	72	19	58	83	63
1951	106	164	66	251	109	77	21	62	84	68
1952	105	162	67	237	108	81	23	63	86	67
1953	103	157	66	220	108	82	24	63	87	67
1954	102	157	65	214	108	82	24	65	87	65
1955	104	155	69	220	108	83	26	66	89	68
1956	103	150	70	212	106	84	27	69	89	65
1957	100	142	69	196	105	83	27	68	88	68
1958	98	136	71	182	104	83	28	73	89	71
1959	101	135	74	183	105	84	32	77	94	75
1960	99	130	76	177	103	83	32	77	95	77
1961	98	125	76	167	103	80	35	81	96	78
1962	98	124	78	163	104	80	38	83	98	81
1963	98	118	80	155	104	79	43	83	99	83
1964	98	116	81	148	104	80	46	85	101	87
1965	97	114	82	144	103	80	49	86	101	85
1966	96	111	83	132	102	82	56	89	102	82
1967	98	109	87	128	104	85	66	92	102	80
1968	97	109	87	124	102	86	69	89	102	85
1969	96	106	87	118	102	86	73	93	101	85
1970	96	106	87	112	105	85	75	96	102	89
1971	97	103	90	108	103	87	81	102	101	89
1972	97	103	91	110	102	86	86	104	102	92
1973	98	103	93	109	100	90	90	107	102	90
1974	98	103	93	109	99	92	92	99	103	87
1975	97	103	90	106	97	96	83	93	100	82
1976	98	100	96	100	98	98	96	101	102	90
1977	100	100	100	100	100	100	100	100	100	100
1978	102	100	105	100	100	104	107	108	99	103
1979	105	100	111	99	103	104	123	115	103	113
1980	103	100	106	96	103	101	123	114	100	96
1981	102	98	106	96	104	98	129	108	99	108
1982	99	96	102	93	102	92	118	107	95	116
1983	96	93	101	97	101	89	102	103	99	101
1984	96	91	101	92	99	86	120	106	93	110
1985	92	87	97	85	97	80	115	102	96	116
1986	89	84	94	80	96	77	109	110	97	110
1987	89	82	95	78	95	73	111	117	100	122
1988	87	80	94	75	94	72	111	110	97	119
1989	88	79	98	76	93	73	122	119	94	123

1/ Includes operator and unpaid family labor, and operator-owned real estate and other capital inputs. 2/ Includes all inputs other than nonpurchased inputs. 3/ Includes hired, operator, and unpaid family labor. 4/ Includes all land in farms, service buildings, grazing fees, and repairs on service buildings. 5/ Includes interest and depreciation on mechanical power and machinery repairs, licenses, and fuel. 6/ Includes fertilizer, lime, and pesticides. 7/ Includes nonfarm value of feed, seed, and livestock purchases. 8/ Includes real estate and personal property taxes, and interest on livestock and crop inventory. 9/ Includes such things as insurances, telephone, veterinary fees, containers, and binding materials. 10/ Preliminary.

Table 37--Indexes of total farm input and major input subgroups, Northeast region, 1947-89
(1977=100)

Year	Total input			Farm labor	Farm real estate	Mechanical power and machinery	Agricultural chemicals	Feed, seed, & livestock purchases	Taxes and interest	Miscellaneous
	All	Non-purchased	Purchased							
	1/	2/	3/	4/	5/	6/	7/	8/	9/	
1947	149	258	93	376	183	75	50	97	119	68
1948	148	249	96	354	177	86	50	102	116	69
1949	152	250	101	356	181	91	53	113	116	68
1950	152	248	102	344	182	94	55	116	113	70
1951	147	233	100	310	178	97	56	120	110	71
1952	144	227	99	292	173	99	59	119	112	67
1953	140	218	97	276	168	98	59	115	114	66
1954	138	217	94	270	169	96	58	114	114	67
1955	138	211	97	276	168	94	63	109	113	67
1956	136	204	98	269	161	95	65	109	112	70
1957	131	192	96	249	159	94	64	103	111	72
1958	127	181	96	233	153	93	67	106	108	74
1959	126	176	97	225	153	93	72	102	110	74
1960	123	166	98	219	144	92	69	101	111	76
1961	120	158	97	207	140	89	70	102	110	78
1962	119	154	97	199	137	87	71	106	110	77
1963	115	143	97	185	132	85	74	106	107	79
1964	113	139	96	177	129	84	74	106	106	81
1965	113	138	96	178	124	84	76	108	103	81
1966	109	130	94	161	119	84	81	108	98	82
1967	108	125	96	152	119	86	84	110	97	84
1968	105	121	93	143	113	86	83	105	96	85
1969	102	116	91	134	110	84	84	106	94	88
1970	101	115	91	128	118	84	86	103	93	91
1971	99	109	92	120	114	84	94	99	92	91
1972	98	107	91	116	113	84	94	94	93	90
1973	99	106	93	113	114	87	102	94	92	90
1974	99	105	95	113	106	91	100	95	96	92
1975	98	106	92	109	102	95	88	89	99	88
1976	99	102	97	101	101	98	95	101	100	89
1977	100	100	100	100	100	100	100	100	100	100
1978	104	100	107	101	100	107	105	109	99	106
1979	107	101	111	98	105	109	113	118	108	106
1980	103	100	106	93	104	105	109	120	101	102
1981	102	97	105	89	103	101	113	117	103	108
1982	98	95	99	88	100	96	101	111	98	115
1983	97	92	100	93	99	93	92	111	108	101
1984	109	108	110	143	105	90	102	114	105	100
1985	104	103	105	136	102	83	96	108	105	103
1986	100	101	100	127	96	80	89	113	104	106
1987	95	93	96	107	96	77	93	116	105	107
1988	93	85	98	109	88	75	90	107	100	108
1989 ^{10/}	95	83	104	110	89	75	99	114	99	111

See table 36 for footnotes.

Table 38--Indexes of total farm input and major input subgroups, Lake States region, 1947-89
(1977=100)

Year	Total input			Farm labor 3/	Farm real estate 4/	Mechanical power and machinery 5/	Agricultural chemicals 6/	Feed, seed, & livestock purchases 7/	Taxes and interest 8/	Miscellaneous 9/
	All 10/	Non-purchased 1/	Purchased 2/							
1947	113	183	67	323	121	58	12	59	97	56
1948	110	174	68	301	118	64	13	56	94	55
1949	115	179	72	307	122	71	15	61	96	56
1950	113	176	71	289	121	75	15	61	96	55
1951	111	170	71	266	122	80	16	65	95	58
1952	111	169	72	255	119	85	17	67	98	56
1953	110	166	71	240	118	87	18	68	101	57
1954	111	168	71	238	118	88	19	73	100	59
1955	114	167	77	247	119	88	22	76	103	60
1956	113	164	78	242	118	89	24	78	102	58
1957	111	157	78	228	118	88	25	77	103	61
1958	108	148	78	210	116	88	27	80	102	64
1959	109	148	81	209	119	88	30	86	105	63
1960	106	138	82	202	115	83	28	87	107	68
1961	106	134	83	192	113	82	31	95	109	69
1962	104	130	82	186	113	79	31	93	110	75
1963	102	124	83	176	111	78	35	92	110	74
1964	102	122	85	170	111	78	39	97	112	81
1965	101	120	85	168	109	77	42	94	110	76
1966	99	115	84	153	107	79	47	96	109	75
1967	99	112	88	146	108	82	58	98	103	82
1968	98	111	87	139	104	83	61	93	104	82
1969	96	107	86	129	103	81	68	93	101	85
1970	96	106	86	121	108	82	66	95	104	87
1971	96	102	89	118	105	81	80	100	103	85
1972	95	101	88	117	103	81	80	97	102	86
1973	95	100	89	113	102	83	83	99	102	84
1974	96	101	92	112	98	88	85	97	106	85
1975	95	101	89	107	96	92	82	92	101	84
1976	96	97	95	100	97	92	96	100	105	85
1977	100	100	100	100	100	100	100	100	100	100
1978	103	99	107	100	102	103	111	99	109	103
1979	106	98	115	97	107	102	130	102	120	121
1980	106	99	112	92	108	103	127	108	123	108
1981	105	97	114	88	111	100	139	105	126	114
1982	104	95	113	86	109	95	131	110	122	149
1983	100	91	109	87	108	92	108	108	132	120
1984	110	107	113	141	101	88	130	112	124	126
1985	105	101	110	132	96	81	132	107	127	135
1986	100	96	103	115	92	78	119	114	130	133
1987	99	94	105	117	93	74	122	121	133	130
1988	95	88	102	106	90	71	120	110	128	138
1989	97	87	106	109	89	72	129	119	123	138

See table 36 for footnotes.

Table 39--Indexes of total farm input and major input subgroups, Corn Belt region, 1947-89
(1977=100)

Year	Total input			Farm labor 3/	Farm real estate 4/	Mechanical power and machinery 5/	Agricultural chemicals 6/	Feed, seed, & livestock purchases 7/	Taxes and interest 8/	Miscellaneous 9/
	All	Non-purchased	Purchased							
	1/	2/								
1947	92	149	55	332	98	51	10	61	84	60
1948	93	148	57	327	98	57	11	60	81	63
1949	97	151	61	327	101	63	13	65	86	67
1950	96	148	61	306	101	68	13	66	88	64
1951	96	144	63	283	102	72	15	70	89	65
1952	97	144	64	271	102	76	17	72	91	66
1953	95	141	64	253	101	77	19	73	93	60
1954	96	143	64	251	102	77	20	75	91	65
1955	98	141	68	259	102	79	20	79	95	71
1956	97	137	68	250	100	79	20	82	96	61
1957	95	133	69	235	100	79	20	81	96	73
1958	94	126	70	217	97	79	21	86	98	73
1959	97	127	73	218	99	80	25	91	104	78
1960	94	121	73	209	97	78	24	89	104	79
1961	93	117	73	192	97	77	26	94	103	78
1962	93	116	75	185	97	77	29	97	105	84
1963	94	112	78	175	97	77	35	98	107	89
1964	94	111	79	166	98	78	40	97	109	90
1965	95	110	81	163	99	79	44	97	107	85
1966	96	109	85	150	100	81	55	100	109	92
1967	99	108	89	147	103	85	65	100	108	85
1968	98	108	89	139	102	87	67	96	110	93
1969	97	106	89	129	102	87	68	98	110	87
1970	97	104	89	122	102	87	71	100	109	94
1971	96	102	90	118	100	88	77	102	104	93
1972	97	103	90	117	99	89	78	105	106	91
1973	97	102	91	113	97	91	79	109	105	85
1974	97	102	92	111	96	95	85	100	103	77
1975	96	102	90	108	95	98	81	98	95	83
1976	100	102	97	101	97	101	98	104	101	88
1977	100	100	100	100	100	100	100	100	100	100
1978	102	101	103	100	100	103	104	98	103	107
1979	106	100	112	98	103	103	123	101	110	128
1980	104	100	108	94	103	100	126	101	107	111
1981	102	97	107	93	103	96	129	95	104	120
1982	98	94	103	91	100	90	119	96	100	153
1983	93	90	97	95	98	85	99	89	100	111
1984	94	93	96	109	94	82	119	90	88	108
1985	90	88	91	96	91	77	112	86	93	115
1986	89	90	89	102	90	73	107	94	97	109
1987	88	87	89	97	91	69	104	99	102	114
1988	85	84	86	85	91	67	106	91	97	119
1989 10/	86	82	90	85	90	68	114	97	92	117

See table 36 for footnotes.

Table 40--Indexes of total farm input and major input subgroups, Northern Plains region, 1947-89
(1977=100)

(1977=100)											
Year	Total input			Farm labor	Farm real estate	Mechanical power and machinery	Agricultural chemicals	Feed, seed, & livestock purchases	Taxes and interest	Miscellaneous	
	All	Non-purchased	Purchased								
	1/	2/	3/								
	4/	5/	6/	7/	8/	9/					
1947	93	140	56	236	101	60	2	38	79	61	
1948	92	138	57	224	103	68	2	37	75	59	
1949	92	135	58	212	97	73	3	38	80	52	
1950	93	136	59	206	97	77	4	40	79	56	
1951	93	134	60	194	98	82	4	43	84	55	
1952	93	134	60	183	97	87	5	45	84	54	
1953	91	132	59	173	98	88	7	45	83	50	
1954	93	135	59	175	98	89	8	48	82	51	
1955	94	133	63	177	98	90	9	50	85	53	
1956	91	127	62	166	97	90	9	50	81	43	
1957	90	124	62	162	96	88	9	48	81	56	
1958	89	119	64	149	95	88	11	53	85	67	
1959	89	115	66	142	97	83	15	61	92	64	
1960	90	114	68	141	97	85	16	62	90	72	
1961	87	108	67	130	98	79	21	63	94	67	
1962	89	110	69	131	99	81	22	67	95	74	
1963	88	105	71	125	100	77	26	68	100	73	
1964	88	103	72	120	101	77	27	68	102	77	
1965	90	103	75	122	102	78	31	70	103	78	
1966	91	103	78	115	101	80	42	77	106	78	
1967	93	102	82	115	102	84	51	81	106	78	
1968	93	103	83	112	102	85	60	80	104	84	
1969	93	101	83	105	101	87	58	85	104	90	
1970	93	100	84	105	101	84	65	90	105	87	
1971	94	99	88	104	99	86	68	110	105	89	
1972	95	99	90	106	98	84	72	122	108	91	
1973	98	101	93	107	97	90	80	124	107	89	
1974	98	103	92	110	97	94	80	109	106	80	
1975	99	104	92	105	97	100	78	97	101	93	
1976	99	100	97	100	99	98	95	103	102	94	
1977	100	100	100	100	100	100	100	100	100	100	
1978	102	99	105	100	99	100	107	116	106	100	
1979	104	100	110	99	101	101	124	124	107	120	
1980	101	99	104	96	101	97	126	120	107	59	
1981	101	99	105	97	102	96	130	109	103	97	
1982	100	96	105	94	101	91	119	116	103	168	
1983	97	94	102	96	100	88	102	111	106	142	
1984	96	95	97	95	95	86	121	113	99	143	
1985	91	89	94	81	93	80	125	111	102	150	
1986	90	87	93	77	92	76	122	120	104	139	
1987	89	85	95	73	94	72	124	132	108	149	
1988	88	85	93	71	94	72	124	121	105	160	
1989	90	84	98	74	94	72	137	130	100	161	

See table 36 for footnotes.

Table 41--Indexes of total farm input and major input subgroups, Appalachian region, 1947-89
(1977=100)

Year	Total input			Farm labor	Farm real estate	Mechanical power and machinery	Agricultural chemicals	Feed, seed, & livestock purchases	Taxes and interest	Miscellaneous
	All	Non-purchased	Purchased							
	1/	2/	3/							
1947	130	220	67	366	144	42	35	44	86	68
1948	129	213	69	351	144	48	36	46	85	72
1949	134	220	73	362	140	56	39	49	86	75
1950	131	213	73	339	139	62	41	50	86	68
1951	132	211	74	327	137	68	45	53	84	73
1952	130	206	75	309	135	72	48	55	85	70
1953	124	194	73	279	133	75	47	54	85	72
1954	123	195	71	274	131	77	45	55	84	65
1955	124	188	76	273	130	79	46	56	84	77
1956	122	182	77	263	126	81	46	59	85	75
1957	114	166	74	227	122	81	45	59	83	77
1958	112	157	76	212	119	82	44	64	81	84
1959	115	157	80	217	118	83	52	65	84	86
1960	113	150	82	210	114	83	50	66	86	84
1961	111	145	82	202	113	81	53	69	85	86
1962	112	144	84	201	112	82	57	70	86	90
1963	111	137	87	193	110	80	62	71	87	96
1964	110	132	87	180	109	81	64	73	88	103
1965	107	126	88	163	108	82	64	80	87	99
1966	104	121	87	147	105	86	69	82	87	95
1967	104	116	90	138	106	89	75	85	88	96
1968	101	113	88	129	103	89	71	85	90	100
1969	99	111	88	123	101	90	73	88	89	101
1970	100	111	88	114	111	89	74	91	90	113
1971	99	107	90	105	107	91	80	98	90	112
1972	98	104	90	106	106	88	82	96	92	112
1973	98	103	92	104	104	90	85	101	93	109
1974	98	102	94	106	101	92	88	94	96	99
1975	98	104	91	109	98	94	83	89	102	91
1976	99	102	96	103	99	97	91	98	102	98
1977	100	100	100	100	100	100	100	100	100	100
1978	105	101	109	103	100	109	104	113	98	115
1979	106	99	113	96	104	109	114	125	104	124
1980	104	101	108	96	104	108	110	127	100	94
1981	105	101	109	99	104	105	119	119	95	118
1982	101	99	102	95	102	101	107	114	89	138
1983	98	94	102	98	101	94	94	111	98	107
1984	93	90	96	74	105	93	107	119	93	120
1985	88	86	91	69	104	85	102	115	98	127
1986	84	80	88	60	102	82	93	124	99	115
1987	83	76	90	62	100	75	95	134	101	134
1988	82	76	88	65	97	74	93	130	96	138
1989	83	75	91	61	96	75	102	141	95	137

See table 36 for footnotes.

Table 42--Indexes of total farm input and major input subgroups, Southeast region, 1947-89
(1977=100)

Year	Total input			Farm labor	Farm real estate	Mechanical power and machinery	Agricultural chemicals	Feed, seed, & livestock purchases	Taxes and interest	Miscellaneous
	All	Non-purchased	Purchased							
	1/	2/	3/							
1947	104	218	48	323	123	45	28	24	65	66
1948	105	213	51	312	125	52	30	25	65	71
1949	106	211	53	301	128	60	31	29	65	66
1950	103	200	52	271	128	65	32	30	67	60
1951	106	201	56	269	126	71	36	34	67	74
1952	104	192	57	246	123	76	38	37	70	72
1953	102	183	57	226	122	78	38	38	72	75
1954	100	177	57	207	123	79	39	40	76	72
1955	103	176	60	219	119	81	40	42	75	78
1956	100	165	62	202	113	83	41	46	77	73
1957	94	150	61	172	109	82	41	48	76	68
1958	92	139	62	157	105	82	40	55	75	68
1959	96	141	68	166	103	84	46	58	76	78
1960	95	134	69	162	100	82	47	58	76	81
1961	94	129	70	153	99	81	50	61	76	82
1962	95	128	72	154	98	80	53	63	79	85
1963	95	123	74	148	97	81	55	64	79	85
1964	95	118	77	137	96	81	58	70	83	98
1965	96	119	78	136	98	82	58	73	87	101
1966	94	114	78	123	98	83	62	78	87	92
1967	97	113	83	123	100	86	71	82	88	85
1968	95	111	82	115	99	87	75	80	87	92
1969	96	109	85	114	98	87	80	86	86	94
1970	97	109	86	109	105	86	81	93	85	100
1971	98	108	89	105	103	90	85	98	85	106
1972	99	107	91	107	103	88	93	96	88	113
1973	100	106	94	107	101	91	97	100	89	108
1974	101	105	96	107	101	95	98	92	100	106
1975	97	105	90	105	99	97	82	87	103	88
1976	99	102	96	101	100	99	94	96	103	99
1977	100	100	100	100	100	100	100	100	100	100
1978	103	100	106	101	100	106	106	111	95	112
1979	106	101	112	98	103	110	117	123	99	123
1980	104	102	106	101	103	104	110	118	96	103
1981	102	99	104	98	102	100	113	111	91	107
1982	93	93	94	90	100	93	100	104	86	54
1983	94	90	98	97	98	90	90	99	89	84
1984	79	65	91	47	99	87	103	108	82	100
1985	76	63	87	45	98	82	96	104	87	102
1986	75	59	90	47	97	79	91	112	89	94
1987	76	60	91	49	93	75	95	119	92	113
1988	74	59	89	48	90	74	91	120	90	110
1989	77	60	94	51	88	75	104	130	89	115

See table 36 for footnotes.

Table 43--Indexes of total farm input and major input subgroups, Delta States region, 1947-89
(1977=100)

Year	Total input			Farm labor	Farm real estate	Mechanical power and machinery	Agricultural chemicals	Feed, seed, & livestock purchases	Taxes and interest	Miscellaneous
	All	Non-purchased	Purchased							
	1/	2/	3/							
1947	115	220	54	465	106	45	16	31	78	66
1948	126	237	61	512	108	52	19	32	75	91
1949	125	229	63	480	109	60	22	34	77	82
1950	118	211	61	409	114	65	24	35	76	70
1951	119	209	64	393	114	70	28	38	77	81
1952	119	205	65	376	112	75	29	39	79	86
1953	118	201	65	361	113	76	27	40	83	94
1954	110	187	62	309	112	77	29	42	83	80
1955	112	184	66	320	110	78	29	42	83	92
1956	109	174	66	294	107	80	30	44	86	83
1957	101	158	63	248	105	80	28	45	85	66
1958	96	146	63	221	103	79	25	49	83	64
1959	104	151	71	237	102	85	30	55	85	90
1960	102	143	73	225	102	83	32	57	85	89
1961	103	140	75	216	101	83	35	64	85	95
1962	102	135	76	196	102	85	40	62	88	99
1963	104	133	82	195	102	87	45	66	90	111
1964	106	131	85	185	104	88	50	71	95	115
1965	104	124	86	169	104	87	52	73	98	110
1966	100	118	83	145	103	90	52	80	97	91
1967	101	114	89	137	103	94	64	85	99	83
1968	102	114	91	135	101	96	70	85	100	101
1969	101	111	93	130	100	95	78	89	100	100
1970	104	114	95	123	110	96	81	96	98	110
1971	104	111	98	118	107	97	89	104	96	116
1972	107	113	102	124	106	97	102	102	97	124
1973	105	108	101	114	105	98	103	109	96	111
1974	105	109	101	111	103	104	106	98	100	106
1975	97	104	90	102	100	97	85	90	105	79
1976	99	102	97	99	101	100	96	98	104	94
1977	100	100	100	100	100	100	100	100	100	100
1978	104	101	107	98	101	107	115	112	96	96
1979	107	100	113	96	104	110	128	120	90	106
1980	104	100	107	92	105	106	130	115	90	91
1981	104	99	109	95	107	101	139	109	85	97
1982	96	95	96	90	105	95	124	108	78	34
1983	95	92	98	94	104	92	109	104	88	46
1984	93	83	102	73	103	89	128	114	81	84
1985	86	75	96	61	100	81	116	111	83	85
1986	82	72	91	54	97	78	113	117	82	68
1987	83	72	93	57	94	76	110	125	84	99
1988	81	69	91	54	91	75	111	123	80	88
1989 ^{10/}	83	68	97	53	89	76	128	133	78	90

See table 36 for footnotes.

Table 44--Indexes of total farm input and major input subgroups, Southern Plains region, 1947-89
(1977=100)

Year	Total input			Farm labor	Farm real estate	Mechanical power and machinery	Agricultural chemicals	Feed, seed, & livestock purchases	Taxes and interest	Miscellaneous
	All	Non-purchased	Purchased							
1947	110	178	59	345	96	62	6	47	66	52
1948	107	169	60	314	97	69	8	46	63	60
1949	114	174	68	328	97	75	9	53	65	92
1950	106	162	63	284	97	77	11	54	66	59
1951	108	163	66	279	98	82	12	58	66	73
1952	105	156	65	252	98	86	13	57	67	71
1953	102	152	64	236	99	87	12	54	66	74
1954	100	149	62	223	98	87	12	54	65	70
1955	101	148	64	231	97	87	13	54	66	68
1956	98	141	64	215	96	88	15	56	65	63
1957	95	134	64	197	96	87	15	54	63	64
1958	95	130	66	189	95	87	17	58	64	77
1959	97	129	70	189	96	87	19	63	73	80
1960	97	125	72	180	97	86	22	63	77	81
1961	96	121	73	171	97	84	26	63	80	84
1962	95	117	75	158	98	83	36	67	82	84
1963	95	112	78	147	99	81	44	66	83	84
1964	94	110	78	139	100	81	49	65	85	83
1965	96	109	81	137	102	84	53	64	86	88
1966	93	104	79	117	102	86	56	70	87	73
1967	94	104	84	117	104	89	66	73	87	67
1968	96	105	85	117	104	91	73	71	87	77
1969	97	105	87	116	105	91	85	83	89	71
1970	98	105	89	113	105	90	87	88	91	77
1971	98	101	92	107	104	89	91	107	94	75
1972	102	103	97	113	104	91	101	115	98	90
1973	104	105	101	112	103	97	102	124	102	96
1974	101	103	96	109	102	94	106	104	101	72
1975	97	103	89	105	99	95	85	93	102	65
1976	98	99	95	97	100	95	96	106	101	84
1977	100	100	100	100	100	100	100	100	100	100
1978	101	98	103	96	100	103	106	121	98	85
1979	103	99	109	99	100	104	124	126	95	103
1980	98	98	99	90	100	99	119	122	87	82
1981	99	98	100	94	100	95	124	113	85	102
1982	93	94	90	87	100	89	107	103	80	73
1983	93	93	93	91	100	88	100	98	88	79
1984	97	96	98	100	103	86	121	96	87	99
1985	93	93	93	87	102	80	118	94	87	101
1986	88	89	87	73	100	78	109	105	87	85
1987	88	87	89	67	100	73	115	113	89	114
1988	90	89	92	86	98	72	123	110	87	104
1989	89	86	93	70	97	74	136	122	88	105

See table 36 for footnotes.

Table 45--Indexes of total farm input and major input subgroups, Mountain region, 1947-89
(1977=100)

Year	Total input			Farm labor	Farm real estate	Mechanical power and machinery	Agricultural chemicals	Feed, seed, & livestock purchases	Taxes and interest	Miscellaneous
	All	Non-purchased	Purchased							
	1/	2/	3/	4/	5/	6/	7/	8/	9/	
1947	90	144	51	250	88	49	6	38	77	58
1948	91	142	53	239	89	56	8	37	78	59
1949	95	145	57	241	93	63	8	40	80	61
1950	94	142	58	227	93	67	11	41	79	66
1951	94	139	60	211	94	72	14	44	82	72
1952	94	138	61	200	94	76	15	45	86	70
1953	93	134	60	185	95	78	15	45	87	72
1954	94	138	59	191	95	78	17	46	87	66
1955	95	136	63	194	95	79	19	48	88	65
1956	95	133	64	188	95	79	21	50	87	67
1957	94	130	65	182	96	79	21	50	85	71
1958	93	126	67	171	96	79	26	54	87	73
1959	96	125	72	166	98	83	28	59	91	79
1960	95	121	73	163	99	82	29	62	91	81
1961	94	118	74	154	99	79	34	63	91	81
1962	94	117	75	153	101	79	35	65	91	82
1963	94	113	77	147	102	78	38	68	96	81
1964	95	112	79	142	103	80	41	68	98	87
1965	91	104	79	134	94	79	45	70	98	79
1966	91	102	80	123	94	80	52	75	98	80
1967	93	100	84	120	95	83	63	80	99	80
1968	93	101	85	120	95	84	69	82	99	82
1969	94	101	86	119	94	83	77	91	98	83
1970	94	101	86	113	99	82	79	93	100	82
1971	95	99	89	108	98	84	84	104	102	84
1972	96	100	90	110	98	83	91	111	103	84
1973	97	101	92	109	97	87	99	109	103	86
1974	96	100	90	106	96	89	98	93	102	89
1975	96	102	89	106	94	94	89	86	104	81
1976	98	100	96	101	98	96	101	101	103	88
1977	100	100	100	100	100	100	100	100	100	100
1978	103	101	106	103	101	102	113	124	98	107
1979	104	99	109	101	103	101	126	124	100	105
1980	101	99	102	97	104	97	125	122	90	92
1981	100	99	102	100	104	94	135	108	90	101
1982	99	96	101	96	102	88	136	111	85	127
1983	98	94	103	104	102	85	122	111	90	122
1984	97	92	103	102	100	84	141	111	89	110
1985	94	88	101	100	98	78	130	110	88	117
1986	89	85	94	82	97	75	125	117	85	112
1987	92	85	100	96	96	72	131	126	85	123
1988	88	80	97	81	94	71	131	117	85	119
1989 <u>10/</u>	91	82	101	86	93	73	152	127	84	129

See table 36 for footnotes.

Table 46--Indexes of total farm input and major input subgroups, Pacific region, 1947-89
(1977=100)

Year	Total input			Farm labor 3/	Farm real estate 4/	Mechanical power and machinery 5/	Agricultural chemicals 6/	Feed, seed, & livestock purchases 7/	Taxes and interest 8/	Miscellaneous 9/
	All 10/	Non-purchased 1/	Purchased 2/							
1947	89	149	49	168	92	55	13	46	75	54
1948	89	145	52	157	95	64	14	50	75	56
1949	91	147	54	160	96	69	14	57	76	57
1950	91	144	55	151	98	69	16	60	76	63
1951	92	143	58	146	99	77	19	66	76	65
1952	91	141	58	139	101	77	20	69	79	67
1953	89	135	58	127	103	78	20	69	81	66
1954	88	135	57	123	104	77	21	71	82	65
1955	91	134	61	129	105	76	25	72	87	64
1956	93	134	65	131	105	77	29	77	88	67
1957	92	131	65	127	105	77	29	77	86	69
1958	92	127	68	121	106	78	33	85	88	68
1959	96	128	73	125	108	80	37	93	95	72
1960	95	123	76	122	109	79	37	92	102	74
1961	95	120	78	116	110	79	39	98	102	74
1962	96	119	80	116	112	79	42	101	104	77
1963	95	114	80	110	113	78	45	95	105	76
1964	96	114	82	109	115	78	48	99	108	81
1965	94	112	81	109	110	77	51	92	110	75
1966	93	110	81	106	109	78	53	92	110	74
1967	93	105	84	100	109	78	67	98	113	74
1968	94	107	84	103	107	78	72	95	112	74
1969	93	105	84	99	105	78	76	96	110	75
1970	92	103	84	94	107	78	81	95	109	75
1971	92	100	87	92	105	81	89	99	110	74
1972	94	100	88	96	103	81	99	92	110	78
1973	95	102	90	101	100	84	104	93	106	76
1974	97	101	93	104	98	83	105	96	107	87
1975	96	102	91	102	96	93	92	90	104	79
1976	97	99	96	97	98	97	98	99	102	89
1977	100	100	100	100	100	100	100	100	100	100
1978	101	99	102	99	102	103	115	106	75	108
1979	105	101	108	103	107	104	135	117	75	103
1980	104	102	105	102	107	98	139	120	72	103
1981	105	102	107	102	111	95	146	117	79	108
1982	103	101	105	104	111	90	135	114	74	115
1983	103	99	106	112	111	88	120	111	75	96
1984	92	70	110	63	110	88	142	116	74	115
1985	91	71	107	67	109	82	135	111	78	122
1986	91	69	109	71	107	79	128	121	79	126
1987	90	67	108	63	104	78	136	123	80	135
1988	88	65	105	62	101	79	137	116	78	118
1989	95	69	116	75	100	82	154	128	79	134

See table 36 for footnotes.

Table 47--Farm productivity: Indexes of output per unit of input, by region, 1947-89 ^{1/}
(1977=100)

Year	Northeast	Lake States	Corn Belt	Northern Plains	Appalachia	Southeast	Delta States	Southern Plains	Mountain	Pacific	United States
1947	58	49	53	60	62	57	44	55	67	58	55
1948	60	54	67	64	65	60	52	52	69	59	60
1949	60	52	62	53	60	55	45	62	64	59	57
1950	63	53	62	61	61	57	45	52	66	61	58
1951	65	56	61	59	66	65	48	52	69	64	60
1952	66	58	66	63	64	62	51	55	73	67	62
1953	70	59	65	59	66	70	56	58	79	70	64
1954	71	61	66	61	68	64	56	60	73	72	65
1955	70	60	68	57	70	75	63	60	74	70	66
1956	74	62	70	56	74	74	60	58	74	71	67
1957	73	63	70	65	67	70	56	63	79	72	67
1958	81	67	75	80	74	74	58	73	86	73	74
1959	79	68	77	69	74	76	66	71	81	74	73
1960	83	69	79	81	77	79	65	76	83	73	76
1961	86	73	81	75	80	83	69	79	83	74	78
1962	83	72	81	81	82	84	71	74	85	76	78
1963	86	77	86	81	85	88	77	76	88	78	82
1964	88	74	82	82	86	85	79	78	86	80	81
1965	91	75	86	84	84	90	81	84	94	81	84
1966	87	77	84	84	82	83	77	77	93	83	83
1967	95	78	88	86	88	94	78	76	96	80	85
1968	93	81	87	89	87	88	87	84	99	86	87
1969	98	81	86	94	92	93	83	77	100	87	88
1970	100	83	83	88	92	93	86	80	101	88	87
1971	104	90	97	103	97	104	89	74	104	90	95
1972	95	88	94	102	98	100	90	82	102	92	94
1973	97	90	93	102	99	101	88	91	101	93	95
1974	100	83	83	87	100	105	84	78	102	98	90
1975	103	89	99	93	104	111	91	91	109	105	99
1976	104	82	97	89	108	113	94	93	110	106	98
1977	100	100	100	100	100	100	100	100	100	100	100
1978	105	99	104	103	104	108	97	87	108	98	101
1979	102	98	108	111	101	113	104	100	102	104	105
1980	105	100	101	97	98	103	84	87	113	112	101
1981	117	106	113	120	117	125	108	113	126	118	116
1982	121	111	114	121	120	134	119	106	123	117	117
1983	114	97	86	104	94	116	93	92	116	110	99
1984	109	102	109	124	127	154	120	95	118	135	117
1985	114	109	136	142	130	161	125	104	115	135	128
1986	111	111	130	142	119	138	118	97	129	128	124
1987	112	106	123	137	119	142	125	103	128	147	124
1988	108	90	102	117	127	157	141	107	126	152	117
1989 ^{2/}	116	113	131	125	138	152	130	103	133	143	128

^{1/} Unrounded indexes of farm output (tables 1 through 11) divided by unrounded indexes of farm input (tables 36 through 46).
^{2/} Preliminary.

Table 48--Indexes of farm output, input, and productivity, United States, 1947-89
(1977=100)

Year	Output	Input	Productivity ^{1/}	Year	Output	Input	Productivity ^{1/}
1947	58	104	55	1972	91	97	94
1948	63	104	60	1973	93	98	95
1949	62	108	57	1974	88	98	90
1950	61	106	58	1975	95	97	99
1951	63	106	60	1976	97	98	98
1952	66	105	62	1977	100	100	100
1953	66	103	64	1978	104	102	101
1954	66	102	65	1979	111	105	105
1955	69	104	66	1980	104	103	101
1956	69	103	67	1981	118	102	116
1957	67	100	67	1982	116	99	117
1958	73	98	74	1983	96	96	99
1959	74	101	73	1984	112	96	117
1960	76	99	76	1985	118	92	128
1961	76	98	78	1986	111	89	124
1962	77	98	78	1987	110	89	124
1963	80	98	82	1988	102	87	117
1964	79	98	81	1989 ^{2/}	114	88	128
1965	82	97	84				
1966	79	96	83				
1967	83	98	85				
1968	85	97	87				
1969	85	96	88				
1970	84	96	87				
1971	92	97	95				

^{1/} Data computed from unrounded index numbers. ^{2/} Preliminary.

A New Tornqvist Multifactor Productivity Index

by

James H. Hauver and V. Eldon Ball

The Laspeyres productivity indexes, introduced by the Economic Research Service (ERS) in 1960, have been praised for their comprehensiveness and criticized for their shortcomings. The total farm output per unit of input was the first multifactor productivity measure published by a Federal agency, and until the Bureau of Labor Statistics (BLS) recently constructed its own multifactor productivity index, the ERS measure remained the only such index regularly published by any government agency. Yet, the ERS index has been frequently criticized by the agricultural economics profession. Griliches (5) faulted the input index early on for not accounting for quality changes in inputs.¹ He found flaws in the measurement of the capital stock and service flows. The National Academy of Sciences (6) and the American Agricultural Economics Association (AAEA) (7) disputed the indexing procedures used in computing the ERS multifactor productivity indexes, concerns which have also been expressed by Christenson (2).

The U.S. Department of Agriculture (USDA) is now taking steps to improve its existing productivity indexes by introducing a new Tornqvist national multifactor productivity index, based on the earlier work of Ball (1). USDA begins publication of the new series in this report. The older Laspeyres indexes will continue to be published temporarily, until Tornqvist indexes have been extended to the farm production region level.

Important theoretical developments in index number theory provided the conceptual basis for Ball's research. The oldest index formulas used by economists are Laspeyres and Paasche indexes. Laspeyres formulas use base period weights, while Paasche formulas use comparison period weights in aggregating heterogeneous inputs and outputs.

A Laspeyres index is exact to a linear production function, with perfect substitutability between all inputs

in the process. The use of fixed-price weights over an extended period will not reflect the appearance of new inputs and outputs, improved quality of inputs, or shifts in relative prices between inputs. Fixed relative prices are not a particularly realistic assumption, especially in the agricultural sector. Observed productivity indexes will confound true productivity changes with factor substitution. If the price of factor x increases relative to factor y , farms will use more of input y and less of input x . Two changes have occurred. The relative price of x increases, but the relative quantity used declines. These two changes have opposite effects on the cost shares or weights. Moreover, Laspeyres indexes assume a linear production function, hardly an adequate model of the production process. These deficiencies have led economists to search for other indexing formulas that impose less stringent assumptions.

One alternative increasingly favored by production specialists is the Divisia index, first developed in the 1920's. The Divisia index is a weighted sum of growth rates, where the weights are the input components' shares in the total value of inputs used. The Divisia index is exact for a homogeneous translog production function, which implies no arbitrary restriction on substitution between factors. Since the translog function is continuous, a discrete approximation is necessary for actual empirical use.

The Tornqvist index is a discrete approximation of the Divisia index, with variable factor share weights. The weights of the Tornqvist index are based on arithmetic averages of cost shares of the present and previous periods. However, the geometric average is typically used for computational convenience. Numeric differences between these methods are usually slight and considered insignificant. Computation is usually annual.

W.E. Diewert (3) categorized the Divisia index as superlative, because it is exact to a flexible functional form. A flexible functional form, such as the translog, can give a second-order approximation to any functional form. Thus, use of a superlative index does not require knowledge of the true function.

¹Italicized numbers in parentheses cite sources listed in the References section at the end of this article.

Tornqvist indexes are an improvement over Laspeyres indexes for three reasons. First, a Tornqvist index recognizes that input factor prices and quantities observed in a given year are most relevant for computing weights in that year. Annual reweighting more adequately reflects changed production relationships. Second, the Tornqvist approximation is superlative, by being exact to a flexible production function, specifically a translog function, with variable substitution possibilities. Third, the Tornqvist index remains appropriate even when tastes or technology are changing over time. The Tornqvist index has the property that, as a chained index, it measures changes relative to the previous period, rather than relative to a fixed base period. Therefore, there is reason to believe that the Tornqvist index can better handle shifting tastes and technology, because chained indexes adjust rapidly to the latest form of a shifting aggregator function.

Given these desirable properties, the AAEA committee (7) strongly recommended the use of Tornqvist indexes for the official ERS productivity measures. This recommendation has now been implemented.

Along with the shift to Tornqvist indexes, ERS is substantially improving its procedures for estimating individual input components. ERS is moving in the direction of a quality-adjusted labor input measure by adopting the Gollop and Jorgenson (4) labor series. Based on a detailed examination of wage rates and hours worked by sociodemographic characteristics of the workforce, Gollop and Jorgenson decomposed labor by sex, 8 age groups, 5 education groups, 2 employment classes, and 10 occupation groups. Fully disaggregated cells are not always available, but estimation techniques are available for imputing the values of cells not directly observable. The imputed compensation for operator and family labor, however, is the same as for hired labor. Thus, research will explore the possibility of estimating imputed returns to labor by category of labor, taking account of differences in education and work experience.

The new Tornqvist indexes also provide an independent estimate of the return to capital. The older series uses short-term interest rates as proxies for the true return to capital. The new Tornqvist series also models the agricultural sector as a producer of capital goods (breeding stocks) for delivery to the sector's own capital accounts. The older ERS series does not consider breeding stocks as capital goods.

The new national Tornqvist indexes are presented in three tables with this special article. Table A-1 provides Tornqvist indexes of farm output by enterprise group for the United States. Table A-2 presents indexes of total farm inputs and major input subgroups for the United States. Table A-3 provides Tornqvist indexes of agricultural productivity for the United States from 1948 to 1989. Regional indexes are not presented at this time but will be published soon, probably next year.

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Table A-1--Tornqvist indexes of farm output and major output subgroups, United States, 1948-89

Year	Farm output	Livestock and livestock products					Crops							
		Poultry					Fruits							
		Meat	Dairy	and	Feed	Food	Sugar	Cotton	Tobacco	Oil				
		All	animals	products	eggs	All	crops	grains	Vegetables	and	crops	11/	12/	
		1/	2/	3/	4/	5/	6/	7/	8/	9/	10/	11/	12/	
(1982=100)														
1948	48	56	58	72	37	43	33	40	64	52	37	127	90	16
1949	46	59	61	74	41	38	17	34	66	46	39	140	103	14
1950	46	61	66	72	43	36	22	32	67	44	49	86	98	17
1951	49	64	71	72	45	39	20	32	62	49	39	132	119	15
1952	51	65	72	73	46	41	22	42	60	48	40	131	115	15
1953	51	66	72	77	46	41	22	36	66	49	45	145	105	15
1954	52	68	75	79	49	41	28	34	67	51	50	120	114	17
1955	54	70	78	80	48	43	30	34	70	52	45	132	113	19
1956	54	71	76	82	52	43	28	35	69	53	46	117	111	22
1957	54	70	73	83	53	42	37	30	71	55	53	97	86	22
1958	56	72	75	83	56	46	36	46	70	50	52	102	89	29
1959	58	75	81	83	58	47	35	38	72	55	58	128	92	24
1960	60	75	79	85	58	50	42	47	68	58	70	128	100	26
1961	61	78	82	88	63	49	35	42	75	60	79	127	105	31
1962	62	79	84	89	62	50	36	41	73	61	81	132	118	31
1963	65	82	88	89	63	53	42	42	74	58	101	136	119	32
1964	64	84	90	90	66	50	33	46	67	59	103	135	114	32
1965	67	82	86	89	68	57	54	46	68	63	94	131	95	39
1966	66	84	89	86	72	53	43	48	74	64	94	85	99	42
1967	70	86	93	86	75	58	61	52	76	64	91	68	102	44
1968	69	86	94	85	73	58	53	47	80	62	107	91	87	50
1969	72	86	95	85	75	62	57	53	76	74	108	110	93	51
1970	70	90	100	86	78	56	42	48	76	70	105	87	98	52
1971	77	91	102	87	79	66	72	57	77	73	107	95	88	54
1972	77	92	102	88	81	67	67	54	80	66	113	126	91	58
1973	82	93	106	85	79	74	77	62	77	79	105	105	90	70
1974	77	92	104	85	79	67	57	66	81	81	97	99	103	56
1975	82	87	94	85	77	78	78	79	81	87	114	66	114	70
1976	82	91	98	89	83	76	74	76	84	84	117	87	106	59
1977	88	93	99	90	84	85	83	71	86	89	106	119	100	81
1978	88	93	98	90	88	85	87	66	91	88	107	91	102	86
1979	94	95	100	91	90	94	94	79	94	93	97	126	80	105
1980	91	99	104	95	96	84	69	86	95	101	101	95	90	81
1981	101	101	104	98	100	101	103	103	96	100	113	135	106	92
1982	100	100	100	100	100	100	100	100	100	100	100	100	100	100
1983	83	102	102	103	101	69	30	88	97	98	102	65	75	75
1984	102	100	100	99	103	102	108	93	103	99	100	112	89	87
1985	107	103	99	105	108	108	126	87	108	97	101	113	77	96
1986	103	104	99	106	112	101	117	77	111	94	107	83	59	88
1987	104	106	100	105	122	101	97	77	117	108	117	127	62	88
1988	97	108	103	107	125	87	61	70	111	116	112	133	67	72
1989	108	109	102	106	130	105	111	76	115	110	113	106	71	88

1/ Includes clipped wool, mohair, horses and mules, honey, beeswax, bees, goats, rabbits, and fur animals. These items are not in the separate groups of livestock and products shown. 2/ Cattle and calves, sheep and lambs, and hogs. 3/ Wholesale milk and cream, retail milk and milk consumed on farms. 4/ Chicken and eggs, commercial broilers and turkeys. 5/ Includes floriculture and ornamentals, forest products, mushrooms, legumes and grass seeds, hops, mint, broomcorn, popcorn, hemp fiber and seed, and flax fiber. These are not in separate groups of crops shown. 6/ Corn for grain, oats, barley, sorghum, hay, and forage. 7/ All wheat, rice, and rye. 8/ Melons, potatoes, sweetpotatoes, dry beans, dry peas, truck crops for processing and truck crops for fresh market. 9/ Fruits, berries, and tree nuts. 10/ Sugar beets, sugarcane for sugar, and maple syrup. 11/ Cotton and cottonseed. 12/ Soybeans, peanuts, flaxseed, sunflowerseed, and other miscellaneous oil crops.

Table A-2--Tornqvist indexes of farm input and major input subgroups, United States, 1948-89

: Year	Total farm input	Farm labor <u>1/</u>	Durable equipment	Farm real estate <u>2/</u>	Farm inventories <u>3/</u>	Energy <u>4/</u>	Agricul- tural chemicals <u>5/</u>	Feed, seed, & livestock purchases <u>6/</u>	Miscel- laneous <u>7/</u>
:	:	:	:	:	:	:	:	:	:
:	:	:	:	:	:	:	:	:	:
:	:	:	:	:	:	:	:	:	:
						(1982=100)			
1948 :	75	188	38	79	54	64	15	45	70
1949 :	74	184	45	84	58	71	16	40	71
1950 :	77	185	52	84	57	73	19	44	71
1951 :	81	183	58	86	59	76	19	49	76
1952 :	82	182	63	88	62	79	22	47	78
1953 :	83	181	66	89	64	81	22	50	75
1954 :	81	179	69	89	62	80	23	46	71
1955 :	86	179	70	90	64	83	23	59	74
1956 :	87	174	71	91	65	83	25	62	74
1957 :	87	170	70	91	63	81	24	68	76
1958 :	87	169	68	91	65	79	25	67	80
1959 :	90	168	69	91	68	80	29	69	93
1960 :	91	165	69	92	69	82	29	74	92
1961 :	89	163	68	91	68	83	32	68	90
1962 :	89	162	67	92	71	85	35	66	91
1963 :	89	156	67	92	73	86	39	67	92
1964 :	88	147	68	93	75	87	43	68	89
1965 :	89	143	69	94	72	89	47	69	90
1966 :	88	130	71	94	76	90	53	70	91
1967 :	89	125	74	94	76	90	61	76	91
1968 :	91	126	77	94	78	90	67	75	94
1969 :	92	123	78	95	78	91	71	84	90
1970 :	91	119	78	95	79	92	74	87	86
1971 :	92	118	79	95	81	90	81	88	85
1972 :	91	117	79	96	84	89	85	81	86
1973 :	90	117	81	96	87	90	91	71	92
1974 :	95	115	85	97	92	88	90	87	96
1975 :	95	114	89	97	90	101	82	86	95
1976 :	97	111	91	97	95	114	101	84	99
1977 :	95	107	94	98	91	119	99	77	99
1978 :	101	107	96	98	93	125	109	91	116
1979 :	104	107	99	99	94	113	118	97	124
1980 :	104	108	102	100	99	110	117	102	112
1981 :	102	105	102	100	93	106	112	98	107
1982 :	100	100	100	100	100	100	100	100	100
1983 :	98	95	95	100	98	98	89	98	102
1984 :	99	97	91	99	89	99	104	105	105
1985 :	96	89	86	99	97	91	102	108	94
1986 :	93	87	80	98	94	90	106	107	88
1987 :	92	84	74	97	91	95	104	104	90
1988 :	89	83	70	96	88	94	101	98	90
1989 :	92	83	67	95	84	93	115	108	82

1/ Includes hired, operator, and unpaid family labor. 2/ Includes all land in farms, service buildings, and grazing fees on public lands. 3/ Excludes commodities used as collateral for Commodity Credit Corporation loans. 4/ Includes petroleum fuels and oils, natural gas, and electricity. 5/ Includes fertilizer, lime, and pesticides. 6/ Excludes purchases from other farmers. 7/ Includes purchased agricultural services and noncapital equipment.

Table A-3--Tornqvist indexes of farm output, input, and productivity, United States, 1948-89

Year	Output	Input	Productivity 1/	Year	Output	Input	Productivity 1/
			(1982=100)				
1948	48	75	64	1968	69	91	77
1949	46	74	62	1969	72	92	78
1950	46	77	60	1970	70	91	76
1951	49	81	61	1971	77	92	83
1952	51	82	62	1972	77	91	85
1953	51	83	62	1973	82	90	90
1954	52	81	64	1974	77	95	81
1955	54	86	63	1975	82	95	87
1956	54	87	63	1976	82	97	85
1957	54	87	62	1977	88	95	93
1958	56	87	65	1978	88	101	87
1959	58	90	65	1979	94	104	91
1960	60	91	66	1980	91	104	87
1961	61	89	69	1981	101	102	99
1962	62	89	70	1982	100	100	100
1963	65	89	72	1983	83	98	85
1964	64	88	72	1984	102	99	103
1965	67	89	76	1985	107	96	111
1966	66	88	75	1986	103	93	110
1967	70	89	78	1987	104	92	114
				1988	97	89	109
				1989 2/	108	92	117

1/ Data computed from unrounded index numbers. 2/ Preliminary.



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